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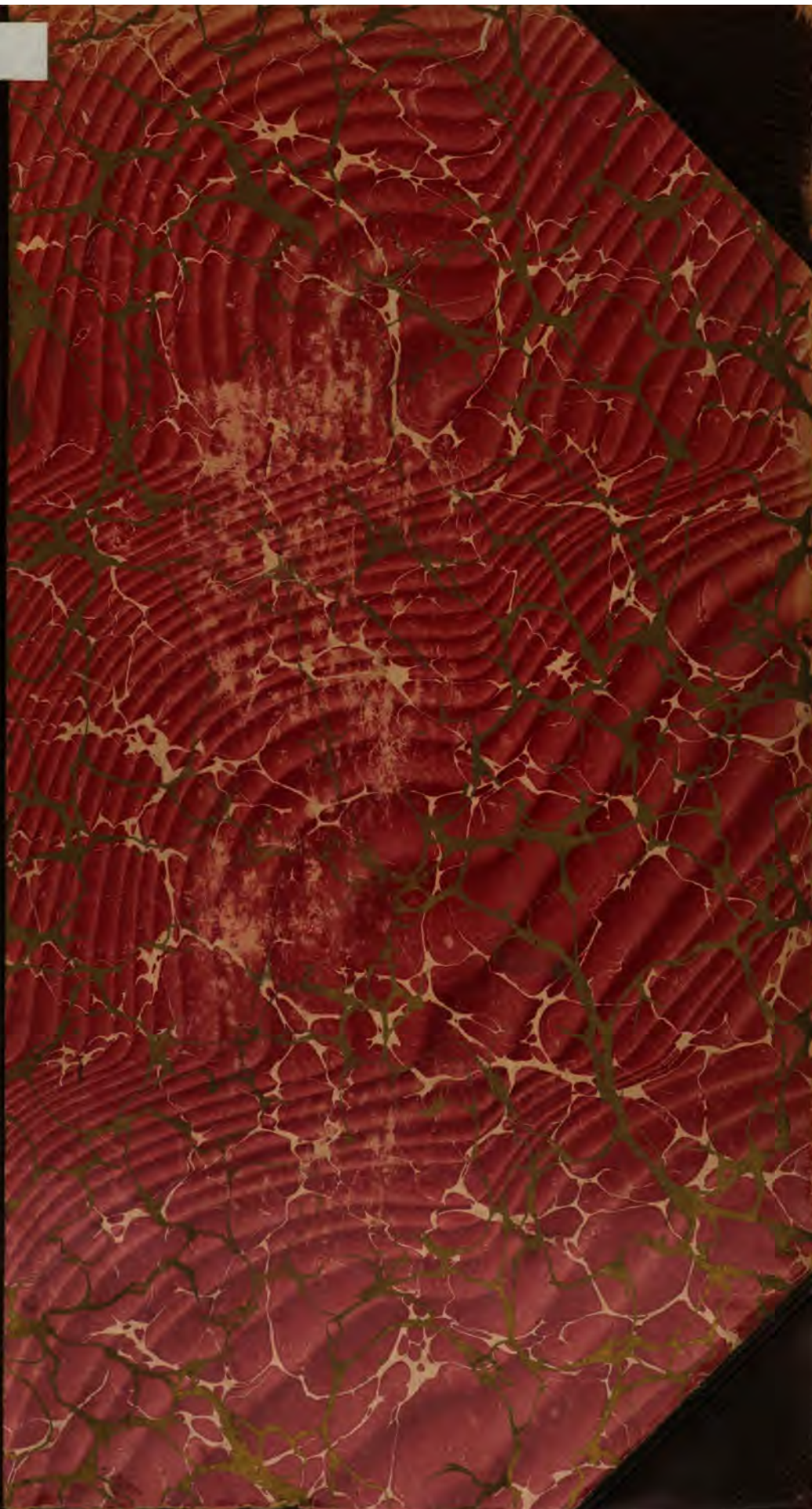
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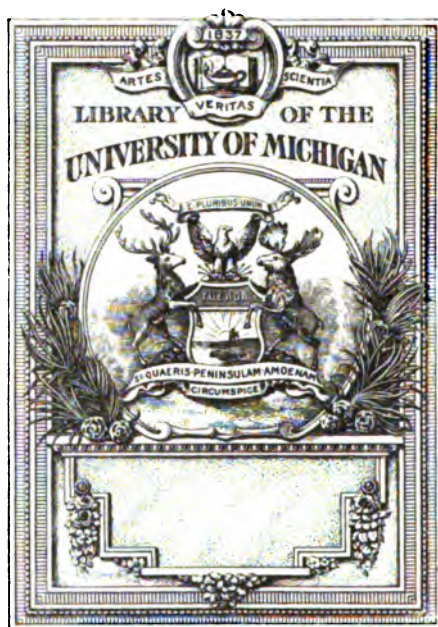
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Amateur Photographer

VOLUME XV
JANUARY-DECEMBER, 1903

Edited by

DR. JOHN NICOL

FREDERICK C. BEACH.

1903

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INDEX.

A	
Acetone Sulphite.....	70, 171
Acid Fixing Bath.....	479
Adding Background to Portrait.....	333
Alkaline Equivalents.....	413
Ambrotypes.....	268
Anastigmat, Peculiarities of.....	205
Apparatus.....	88, 182
Art or Nature.....	270
Avoiding Reversal.....	121
B	
Background Added to Portrait.....	382
Backing for Orthochromatic Plates.....	26
Bath, Combined.....	51
Binding Lantern Slides. Richard Hines, Jr.....	80
Blue Prints, Toned.....	480
Blue Prints, A. Scott.....	491
Blue Toning of Bromides.....	144
Box, Contribution.....	13
Bromide Papers, Development of.....	81
Bromide Prints, to Re-Develop.....	368
Bromide Prints Toned in Hypo.....	480
C	
Camera and Lens.....	484
Camera Work.....	233
Caramel Backing.....	432
Carbon Printing. Dr. John Nicol.....	342
Carbon Tissue, Rapid Drying of.....	165
Causes of Distortion.....	336
Celluloid Carbon Tissue.....	458
Champney, J. Wells.....	254
Cheap Chloride of Gold.....	115
Chicago Salon.....	86
Clouds in Landscape.....	319
Clouds in Negatives.....	526, 528
Collodio-Chloride Emulsion.....	312
Collodion Process.....	315
Collodion, Rapid Wet.....	415
Color Photography.....	26
Colors and Dyes.....	414
Colors on Developing Paper.....	264
Combined Bath.....	51
Combined Developing and Fixing.....	192
Comparative Test of Developers.....	212
Competitions, Photographic.....	147
Composite Prints on Paper. Mr. Sanger-Shepherd.....	29
Convention, Perth Catherine Weed Ward.....	440
Conversion of Bromide Prints to Platinum. C. Winthrop Somerville.....	125
Cooper-Hewitt Light.....	469
Copying With Ordinary Camera.....	382
Cronophone.....	211
D	
Dark Room Light.....	73, 291
Developer, Portable.....	383
Developer, Edinol.....	527
Developer for Cramer Plates.....	493
Developing Paper, Color on.....	264
Developing. A. R. Phelan.....	352
Developing Machine.....	55
Development.....	81
Development of Bromide Papers.....	524
Development Tank.....	320
Distortion. J. Ludor Condull.....	354
Dry Mounting.....	336
Distortion, Causes of.....	325
Direct Positives in the Camera.....	165
Drying Carbon Tissue.....	143, 383
Dry Developing Powders.....	239
Dusting on Process.....	414
Dyes, Colors and.....	414
E	
Eastman Progress Competition.....	35
Edinol Bayer.....	380, 501
Edinol for Warm Tones.....	277
Electric Ruby Light.....	73, 143, 191, 238
Emulsion, Collodio-Chloride.....	312
Enlarged Negatives.....	195, 421
Enlargement vs. Reduction.....	118
Estimating Exposure in Dimly Lighted Interiors.....	23
Exhibition of Wyoming Camera Club.....	87
Exhibition, Rochester Camera Club.....	228
Exhibition Royal Photographic Society of Great Britain.....	267
Exposure. Dr. John Nicol.....	8
Exposure Meter.....	122, 176
Exposure by The Radiometer.....	24
Exposure Estimating in Dimly Lighted Interiors.....	23
F	
Fault-findings.....	99
Fixing. Dr. John Nicol.....	101
Fixing and Washing Prints. G. L. Brown.....	401
Flashlight, Photography by.....	323
Flashlight, Portraiture.....	278
Flowers, How to Photograph. F. J. Erskine.....	406
Focusing. J. W. Salisbury.....	411
Focal Length of Lens.....	527
Formulae.....	387
Framing and Mounting. Dr. John Nicol.....	295
G	
Gelatine Mounting Paste.....	287
Gelatine Negatives.....	512
Glass Positives.....	268
Gold, Chloride of.....	115
Grun Lens.....	524
Gum-Bichromite.....	159, 214
Gum Bichromate Printing.....	540
H	
Hardening Solution.....	95
Hektograph, How to Make.....	480
Home Portraiture. F. M. Steadman.....	462
Home-made Paper for Prints.....	383
Hot Hypo Toning.....	480
Hydrottype, Notes on.....	30
Hypo Eliminators.....	383
Hypo, Stock Solution.....	74
Hypo, Testing for.....	74
I	
Ice and Snow Photography.....	13
Improving Platinotypes.....	115
Improving the Negative. Dr. John Nicol.....	199
Indelible Ink.....	384
Interesting Photograph.....	15
Intensification and Reduction.....	151
Iodine in the Developer.....	310
Iodine as a Reducer.....	192
K	
Kasebier, Mrs.....	78
Kodoid, Plate.....	228, 266
Kodak Competition.....	511
L	
Laboratory.....	373
Landscapes, Clouds in.....	339
Landscapes, Sunlight Effects in.....	21
Lantern Exhibition.....	537
Lantern Slide Competition.....	47
Lantern Slides.....	435
Lantern Slides, Binding. Richard Hines, Jr.....	80
Lantern Slide Competition.....	91
Lantern Slide Curtain.....	114
Lantern Slides from Drawings.....	169
Lenses. Chapman Jones.....	466
Lens and Camera.....	484
Lens, Grun.....	524
Lens Aperture.....	240
Lens Stops, the Marking of.....	47, 238, 240
Light for Dark Room.....	73-291
Light, the Cooper-Hewitt.....	469

INDEX.

Lighting Portrait. Felix Rayner.....	467	Reduction vs. Enlargement.....	113
Liquid Glue	22	Reduction and Intensification.....	151
M		Restoring Fogged Paper and Plates.....	21
Marking of Lens Stops, the.....	47, 239, 240	Results	496
Making Negatives. Prof. D. J. Cook.....	41	Retrospective	532
Meter, Exposure	122	Rochester Camera Club Exhibition.....	223
Metol Formula	143	Rodinol. Prof. Florence.....	353
Metol-Hydro Developer	326	Rodinol	325
Metoquinone	257	S	
Mirrors, Silvering	84	Salon, Chicago	86
Mounting Prints Dry	261	Seasonable Suggestions	259
Mounting and Framing. Dr. John Nicol.....	295	Season. Concerning the.....	1
Mounting Paste, Gelatine	287	Sepia Tones	314
N		Silvering Mirrors	84
Nature or Art	270	"Sinop" Collotype Process.....	31
Negatives Enlarged	195, 421	Size of Objects in Photograph.....	114
Negatives, Gelatine	512	Slide Curtain, Lantern.....	114
Negative, Improving the. Dr. John Nicol.....	199	Snow and Ice Photography.....	13
Negative Making. Prof. D. J. Cook.....	41	Society Notes. 44, 92, 131, 186, 235, 281, 333, 477.....	519
Negatives for the "Sinop" Collotype Process.....	32	Solution. A New Toning.....	22
Negatives, Perfect. A. H. Bailey	306	Special Subject Series.....	55
Notes on Hydrotypes	30	I. Development. Dr. John Nicol.....	55
O		II. Development. Dr. John Nicol.....	55
Optical Industry	454	III. Fixing. Dr. John Nicol.....	101
Orthochromatic Plates, Backing for.....	25	IV. Intensification and Reduction. Dr. John Nicol.....	151
Orthochromatism	243	V. Improving the Negative. Dr. John Nicol.....	199
Orthochromatic Screen	432	VI. Printing. Dr. John Nicol.....	246
Ozotype	86	VII. Mounting and Framing. Dr. John Nicol.....	295
P		VIII. Carbon Printing. Dr. John Nicol.....	342
Passe-Partout	184	IX. Carbon Printing (continued). Dr. John Nicol.....	395
Perfect Negatives. A. H. Bailey.....	306	X. Carbon Printing (continued). Dr. John Nicol.....	446
Perth Convention. Catherine Weed Ward.....	440	XI. Portraiture. Dr. John Nicol.....	488
Photograph Flowers, How to.....	406	XII. Gum Bichromate Printing.....	540
Photographing Objects in Motion.....	15	Stereoscopic Photomicrography	75
Photo-Secession	20, 213	Stereoscopic Projection	210
Photography by Flashlight.....	323	Stereoscopic Photography	300
Photography, Color	26	Stripping Gelatine Negatives.....	512
Photography. John B. MacLachlan.....	173	Suggestions of Interest.....	30
Photography. Dr. J. K. Tulloch.....	424	Sulphite, Acetone	70, 171
Photography, Stereoscopic	300	Summer by the Sea.....	273
Photography, Telescopic	120	Sunlight Effects in Landscape.....	21
Photography or Wood Engraving.....	76	T	
Photomicrography, Stereoscopic	75	Tank Development	524
Photographic Registration of Tones. Charles Truscott	318	Telescopic Photography	120
Photographic Fog. A. and L. Lumiere and A. Seyewetz.....	506	Testing for Permanency.....	130
Photographic Competitions	147	Three Color Method. Jumeaux-Davidson.....	418
Photographic Paper	419	Three-color Prints. Mr. Sanger-Shepherd.....	26
Photographic Portraiture. Walter Scott.....	471	Three-color Prints by "Carbon" Method.....	71
Physical Puzzle. A. Scott.....	219	Tones, Registration of. Charles Truscott.....	318
Picture Post-cards	458	Toning Solution	22
Picture Stories. D. K. Landis.....	391	Toning. Strength of Bath.....	192
Platinum Toning	165	Toning Bromides with Hypo.....	480
Platinotypes, Improving	115	Toning Blue Prints.....	480
Pointers by Practical Workers.....	277	Toning Bromide Prints Blue.....	144
Portrait Lighting. Felix Rayner.....	467	Transparencies for Enlarged Negatives.....	421
Portraiture	221	U	
Portraiture at Home. F. M. Steadman.....	462	Uranium Intensifier.....	412
Portraiture. Dr. John Nicol.....	488	V	
Portable Developer	143, 383	Varnish for Bromides.....	142
Prints, Three Color, by "Carbon" Method.....	71	Velox Paper Formula.....	142
Prints, Three-color. Mr. Sanger-Shepherd.....	26	W	
Printing with Water Stains, Method of. Mr. Sanger-Shepherd	28	Washing and Fixing Prints. G. L. Brown.....	401
Prints, Composite on Paper.....	29	Wet Collodion	415
Printing. Dr. John Nicol.....	246	Wood Engraving. Photography on.....	76
Prints, Mounting Dry.....	261	Wyoming Camera Club, Exhibition of.....	87
Printing Out Paper.....	309	Wynne Meter	122, 288
Prints, Fixing and Washing. G. L. Brown.....	401	Wynne Meter. Henry Wenzel, Jr.....	17
Pyro-Ammonia Developer	325	Y	
Pyro Formula	69	Yellow Stains	96
R			
Radiometer, Measuring Exposure by.....	24		
Reception Room Ethics.....	416		

INDEX TO ILLUSTRATIONS.

"A Summer Sea." Rudolf Eickemeyer, Jr.....	2	"Narcissus." C. O. Thurston.....	151
"Autumn." Theodore Eitel.....	53	"Nature In Snowy Garb." H. C. Hendrick....	194
"A Rift In the Clouds." E. M. Blaine.....	63	"Oft In the Stilly Night." N. Pomeroy.....	14
"At the Spring." R. S. Kaufman.....	106	"On the Penobscot." W. H. Blacar.....	248
"An Early Snowfall." Dr. C. Geo. Bull.....	106	"Peonies." W. J. Merrill.....	16
"Among the Hills." Oscar Maurer.....	111	"Portrait." Appleton & Co.....	93
"Alicia." George Donnehower.....	177	"Portrait." Edward Steicher.....	109
"A Brace of Mallard." C. Geo. Bull.....	197	"President McKinley." "In Volunteer Parade."	
"A Forest Path." Geo. E. Fitch.....	201	C. T. Thayer.....	249
"Autumn On the Banks of the Grand River."		"Portrait." Myers R. Jones.....	256
Marl S. White.....	294	"Portrait." Myers R. Jones.....	291
"Aquatic Sports." A. B. Phelan.....	352	"Puppies." Myers R. Jones.....	293
"A Moment's Rest." S. Wylie.....	358	"Playmates." Geo. E. Firmin.....	339
"A Jolly Trio".....	437	"Portrait." "General Chaffee." Pirie Mac-	
"A Tiogo County Landscape." Arthur Levine.....	489	Donald.....	434
"Among the White Mountains." Joseph P.		"Portrait." "Edward Markham." Pirie Mac-	
Nichols.....	493	Donald.....	439
"Arts Building, St. Louis Exposition".....	495	"Portrait." "Russell Sage." Pirie MacDonald.....	447
"At Evening." Helen L. Griswold.....	531	"Rachel." Annie W. Bingham.....	52
"Along the Brook." S. B. Phillips.....	543	"Rancheros." Oscar Maurer.....	150
"Busy Times." W. J. Burgess, Jr.....	103	"Reading Omar Khayyam." Amelia Van	
"Bruce." J. M. Tallman.....	157	Buren.....	177
"Bachelor's Reverie." Rev. S. S. Conger.....	432	"Rembrandt Study." C. T. Wernway.....	213
"Building Air Castles." Geo. E. Fitch.....	482	"Repose." Floyd Vail.....	253
"Boating on the Upper Susquehanna." Arthur		"Roses." Anna Beckstrom.....	295
Levine.....	490	"Reflections." J. R. Crockett.....	484
"Co Boesie." J. W. Crockett.....	61	"Sheep." W. A. Rowley.....	60
"Chrysanthemums".....	101	"Snow Shoeing." W. C. Lee.....	111
"Child Study." F. H. Porter.....	247	"Sleeping Girl." Mrs. W. and G. Parish.....	152
"Carpenter At Work." Myers R. Jones.....	290	"Sea Shore Children." H. B. Lefroy.....	195
"Conservatory at Buffalo".....	303	"Street Vendors." Edw. Heim.....	199
"Chinese Lilies." Jules A. Burquin.....	342	"Stereograph With Lenses, Three Inches	
"Can Aught Be Sweeter Than to Glide." J. S.		Apart." H. W. Hales.....	301
Crockett.....	386	"Stereoscope Picture Illustrating Use of Sim-	
"Consolation." H. L. Bellsmith.....	397	plex".....	304
"Drifting With the Tide." H. B. Lefroy.....	9	"Sleeping Melodies." W. E. Cogswell.....	343
"Deeply Interested".....	338	"The Musician." A. H. Bailey.....	3
"Early Spring." Malcolm Chandler.....	160	"The Young Tourist." J. P. Collins.....	4
"East Side Peddlers." Edward Heim.....	400	"The Day's Work Done." H. B. Lefroy.....	7
"Frost." C. H. Brooks.....	99	"The Bubble." Will C. Elwig.....	11
"Fish Market, Chinatown." H. F. Smith.....	153	"Tired Out." Col. Horace M. Seaman.....	108
"First Attempt To A New Recruit." Clement		"The Desert." F. W. Sisson.....	110
Jocomini.....	300	"The Reader." R. S. Kaufman.....	146
"Falls At Portage." N. Y.....	302	"The Young Violin Maker." Geo. A. Back-	
"Going To Milk." Mrs. J. G. Cochran.....	112	man.....	149
"Grazing." H. A. Stanley.....	541	"The Art of Study." Arthur Wilde.....	156
"Indian Basket Maker." Mrs. Myra A. Wig-		"The First Lesson In Kodakery." W. Walter	
gans.....	111	Dinwiddie.....	150
"In the Streets of Cairo." Miss Annie S.		"The Father of the Family." Myers R. Jones.....	297
Dean.....	251	"The Long Shadows of Afternoon." Henry	
"In Pasture." W. H. Blacar.....	485	Popp.....	345
"J. Wells Champney." J. Wells Champney.....	254	"The Meadow Brook Club." C. S. Gottheil.....	389
"Kickapoo Creek." Clayton W. Mogg.....	242	"The Blacksmith." Helen L. Griswold.....	487
"Late Winter Afternoon." Oscar Von Engeln.....	13	"Tewksbury Abbey".....	539
"Lady Dainty." Geo. E. Fitch.....	155	"This Little Pig Goes to Market." B. Chon-	
"Luna Park." "Coney Island." "At Nigat." J.		nell.....	545
P. Chalmers.....	390	"View In Prospect Park." Brooklyn. J. P.	
"Mrs. Kasebier." Alvin L. Coburn.....	59	Chalmers.....	226
"Mexican Cactus".....	64	"Woodland Pastures." H. B. Lefroy.....	5
"Marsh Land." C. G. Bull.....	198	"Waste Land." H. Hendrickson.....	56
"McCoy." "Driving Joymaker." C. S. Got-		"Winter Landscape." Ralph E. Berger.....	57
theil.....	341	"Wet Pavements." Wm. C. Motteram.....	107
"Nature In Its Robe of White." R. S. Kaul-		"Where the Sunshine Glances." Arthur Le-	
man.....	50	vine.....	245



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"A
SUMMER
SEA."

Rudolf Eickemeyer, Jr.

Awarded First Prize in Camera Club, (N. Y.), Landscape Competition, Dec., 1902.

THE
AMERICAN AMATEUR PHOTOGRAPHER.
VOL. XV. JANUARY, 1903. NO. 1.

Concerning the Season.



A. H. Bailey.
"THE MUSICIAN."

HAVING come to another milestone in the course of time, we desire to keep up the good old custom of wishing for all of our readers "A Happy New Year and many of them." Such seasons are the landing places on the stairway of constant work; breaking its monotony in so far as in the opportunity they afford for the annual greetings they seem to bring us into a less impersonal contact and a closer bond of friendship with our readers.

They are also times of stock-taking; times when we more especially review our work during the year that has gone; and, if we

are wise, learn from our shortcomings how to prevent them during the year that has begun.

The year of our Lord 1902 cannot in any sense be said to be a red letter year in the progress of photography. It has not quite stood still; but except for the Grüne lens, the only particular feature of which is its rapidity, and, according to *The British Journal of Photography*, there were lenses equally rapid before its advent, and the Kodak Developing Machine with the impetus that it will give to "time" development, it has not given birth to any epoch making discovery development or invention, the "Progress Medal" of the Royal Photographic Society even being



No. 1548.

J. P. Collins.

"THE YOUNG TOURIST."

given to Swan for what he did for carbon printing some forty years ago.

But the experimentalist has not been altogether idle. Our good friend Ives has surprised the world with his "Parallax Stereogram," a single transparency that gives perfect stereoscopic effect without a stereoscope, and for which, at the recent exhibition of the "Royal," he was awarded a medal; Taylor, Taylor and Hobson have introduced the "Focusing Cook Lens," an instrument by the employment of which the construction of the hand camera may be considerably simplified — by which, in fact, the so-called "fixed-focus camera is converted into a

focusing one, a slight turn of the hood of the lens enabling the operator to focus anything from three years to infinity; and Goerz has given us the "Hypergon," that while it will not exactly, like the Irishman's gun, see round a corner, it includes the hitherto unheard of angle of 135 degrees.

Photography in natural colors has, as usual, been several times heralded, and equally, as usual, only to be a false alarm. Photography by the three-color method, however, is more than ever in the air, and is daily increasing in popularity. Three-color work on paper is still considerably below the mark, but Sanger Shepherd promises, as will be seen on another page, to give us in the near future a method that will be simple and satisfactory, and if it is at all equal to his transparencies on glass it will meet with an enthusiastic welcome. The brothers Lumiere have also been progressing in their three-color transparency method, and offer at a trifling cost all necessary material for its practice, now simplified to such an extent that the amateur of average ability may easily secure most charming results.

On this side, although our manufacturers have not been idle, with the exception of the developing machine already mentioned, they have generally been content to improve their output of apparatus and material

till it is not only second to none, but have succeeded in getting it introduced and largely used in almost every part of the world. American made cameras have reached a degree of perfection beyond which it seems impossible to go, and American designed and made lenses, especially of the "anastigmatic" type, such as the plastigmat, leave absolutely nothing to be desired.

And that apparatus and material have been turned to good account. While we have little sympathy with certain phases, or the work of certain members of what is spoken of as "The American School," it, as a whole, has attracted considerable attention, been highly appreciated, and gained many awards wherever it has been shown; the most recent being, as noticed in our last, at the Turin International Fine Art Exhibition, where, as a set, and that in competition with sets from Great Britain, France, and probably other nations, it was awarded the "King's Prize" of the value of 2,500 francs, the award being personally to Mr. Stieglitz, who had collected it, and divided amongst the thirty exhibitors or authors of the exhibits five grand prizes, two gold and five silver medals, and eight honorable mentions. Well may Mr. Stieglitz congratulate himself on the victory of what he has so long and so strongly stood for, and sit light to all the silly abuse that so ignorantly has been heaped on his head.

Of our own work we shall leave our readers to judge, premising only



H. B. Lefroy, Toronto.

"WOODLAND PASTURES."

that we have done the best that under the circumstances we could, although not quite so well as we could have wished. Our main object has been to lead our readers up through technique into picture making, a work in which we have been heavily handicapped by the craze for snapping, with the result that over 70 per cent. of all the prints that have come to "Our Portfolio" were simply worthless from under-exposure or the negatives from which they were printed. But we are not easily discouraged and shall continue to try, in the hope that in time it will be more generally recognized that exposure for the shadows is essential to picture making.

We have, as we have said, done all that we could under the circumstances, but have not been able to bring the magazine up to our ideal, up to what it might be, and while grateful to the large and, in many cases, enthusiastic number of subscribers who have helped us to do so much, we wish to enlist them into doing still more. Our efforts, and in a modest way our abilities, too, are limited by our clientele, and the larger it is the more shall we be able to do.

As may be seen on another page, our publishers are willing to help us in this direction, and at the risk of some pecuniary loss, have reduced the price from two dollars to a dollar and a half per annum. This should make it easier for those of our friends who have so often expressed a desire to help us, as well as our readers generally, to aid us in our earnest desire to double our subscription list before the new year has become old. If every reader would, by speaking the word in season, writing to friends at a distance, or in any other way, make a point of securing for us one new subscriber, the desire would be accomplished and their reward would be a monthly visitor much more after our own heart.

It is encouraging, to say the least, to be in constant receipt of letters of praise from our readers, but if they would be equally alert in recommending the magazine to their friends it would result to our mutual benefit.

They, or many of them, could also help us in another way. We are always ready to welcome suitable articles, especially of a practical nature, and the "Contribution Box" is always open. "A nod is as good as a wink, etc." Few can do much without coming across something that their brethren would be the better for knowing.

Never mind, although you are not accustomed to writing, but tell your story in your own way, and wherever it may be necessary, we shall gladly put it in proper shape, and with heartfelt thanks in advance, we wish every reader, present and prospective, "A Merry Christmas and a Happy New Year."



H. B. Lefroy, Toronto.

"THE DAY'S WORK DONE."

Exposure.

BY DR. JOHN NICOL.

The first of a series of articles to continue throughout the year, each dealing as exhaustively as the space will permit with one of the principal operations in the practice of photography.

"For three years I have read your magazine with pleasure and profit, except in the matter of exposure, where your advice has caused me any number of lost plates from over-exposure."

" * * * And that success I owe altogether to your insistence on sufficient exposure—exposing for the shadows, as essential to true picture making. Previous to coming under your influence I kept on snapping as I saw others doing, blaming, sometimes my lens, and sometimes other causes for the utter want of the desired gradation between the absolute white and black of my prints; all of which have been committed to the flames since I have learned that nothing short of exposure for the shadows will give pictures worth looking at."

I TAKE these two very different expressions of opinion as the text for yet another effort at the conversion of the under exposers from the errors of their ways, although it is approached with hesitation, as apparently nothing short of a revolution in both their mental and physical vision, and a vastly greater acquaintance with the technique of the art will convince them of that error.

Notwithstanding the evident fallacy of the saying that "whatever is, is right," it would seem that it applies to a large extent in relation to photographs. The craze for snapping or exposures of small fractions of a second has so possessed the thousands on thousands of camera carriers that probably 90 per cent. of all the prints that they see are without a trace of gradation between the deepest black and the whitest white of the paper; between the clear or bare glass and the perfectly opaque of the negative, and seeing that and nothing but that, their mental vision has become degraded to an extent that leads that of their physical eyesight to be content with it.

Hence, I should like to see some of the "lost plates" referred to by my correspondent, and all the better if he could accompany them. One of two things I feel certain I should be able to tell him and probably to convince him of its truth: either that the negatives were really good, although he did not know it, or that he had not yet really mastered the mysteries of development.

While it is true that there is a correct exposure for every subject under every possible condition, there is a latitude both over and under by which good results may be obtained, and to a certain extent at least good in proportion to the technical knowledge of the operator. But the two degrees are far from equal, the under being very short and the over very long. Just what those limits are it is impossible to say, as they vary with various brands of plates and with various methods of develop-



H. B. Lefroy, Toronto,
"DRIFTING WITH THE TIDE."

ment; but it will not be far from the mark to say that on a plate or film that has received 50 per cent. less than the correct it will be found impossible to develop an image of good technique.

Of course, there are exceptions to all rules, and there are subjects in which just such results as come from such exposures are desired, subjects in which lights only count and shadows are nowhere; but they are few and far between, and to the photographer who is not an artist in fact as well as in name they can bring only disaster. The merest tyro in development knows that there should be some detail in even the darkest shade and on an under-exposed plate allows development action to continue in the hope of bringing it out till, in virtue of the cumulative action, all the lights from the lowest to the highest are equally opaque, while where shadow detail should be there is still only bare glass. Prints from such negatives are only white and black, neither of which, to any great extent at least, are to be found in nature, and should never, or hardly ever, be found in its pictorial representation.

While I write, a fairly bright but without sunshine December day, the "dead-match" paper in my Wynne's exposure meter matched the test color in twelve seconds, which for the plate in my camera, Carbutt's eclipse with a speed of $f/78$, indicates an exposure of one second. According to my habit of allowing 25 per cent. over the meter indication, I exposed one a second and a quarter, one a second, and one three-quarters of a second. Time development—edinol and sextuple—resulted in the first being all that I could desire; the second good, although less perfect in the shadows, and the third apparently considerably under-developed, and after a longer time in the solution decidedly "hard," all the lights equal in intensity and all the shadows equal in darkness; a negative that I should not care to print from, and such as to show that an exposure of anything less than 25 per cent. under correct would result in a negative fit only for the dust bin.

Very different is the latitude on the over side. I do not refer to the larger claims occasionally made, sometimes as qualities of particular plates, particular developers, or certain methods of development, and going up to the hundred and even the thousand times of what would have been correct, but to anything between, say, twice and twenty times, and say without hesitation and as the outcome of considerable experience and with most of the plates and developers on the market, that equally good negatives may be developed from the plates already referred to with any of the exposures between a minute and a quarter and twenty-five minutes. True, the longer exposures require modified treatment; a solution weak in reducer and strong in bromide, with subse-



Will G. Helwig, Cincinnati.
"THE BUBBLE."

quent intensification of the high lights, but it can be done; and he who loses plates from such a short over-exposure shows lack of the necessary knowledge.

In making an exposure it must not be forgotten that the first action of the light is to overcome the inertia, a necessity precedent to all motion or chemical action, and that only after that does the formation or impression of the latent image begin. First the lights, and more forcibly in proportion to their intensity, followed in like ratio by the shadows, and consequentially, the deeper the shadows the longer will it take to impress a developable image of their detail.

Keeping this in mind, it will be evident that unless the exposure has been sufficient to impress the shadows, no forcing or prolongation of development can bring them out; but instead, in consequence of the cumulative action of the developer, the lower lights continue to be built upon till all are equally high, or altogether opaque. Hence, also, the necessity for the observance of the good old rule, "expose for the shadows," and, although only in the exposure, "let the lights take care of themselves.

For some time it has been the fashion amongst a certain class of picture makers to belittle technique; following the lead of a few that about the time of the formation of the Linked Ring characterized those whom they supposed they were leaving behind, as "scales and weights," and "graduated measure" photographers. But an examination of the work of the best at least of those leaders shows clearly enough not that they neglected technique; as whatever may be said to the contrary, it is the basis of all good work, but that it was so simple and easily obtained, and they had so long been accustomed to getting it, that it came without thought.

The would-be picture maker then must learn how to secure good technique; how to make negatives that shall include all the degrees of luminosity as seen by the eye reflected from the subject, and in something like their true gradation. He must learn also from observation that in nature there is little, very little, of either white or black, and that there must be equally little of either bare glass or complete opacity in that negative; no part so clear as to pass all the light, and no part so dense as to let none of it pass.

Nor need there be any difficulty in securing that desirable or rather essential result. It is simply a question of sufficient exposure; sufficient, at any cost, and the nearer to one that is correct the better, never forgetting, however, that safety and simplicity lies on the side of over, while difficulty certainly, and impossibility probably, will be found with under.

Development shall be dealt with in my next.

Contribution Box.

SNOW AND ICE PHOTOGRAPHY.

AT different times it has been a cause of some amusement to me to note the sportive manner in which your writer on photo topics loftily advises the amateur "not to lay his camera on the shelf during the winter, but to get out and secure some of the beautiful effects of ice and snow with which we are favored in this season of the year." Good advice this, and true, as regards the beautiful effects, but have you ever noticed how very small the number of such scenes is compared with those exhibited representing phases of other seasons? And of those shown, how many are made by the authors of such articles.



"LATE WINTER AFTERNOON."

Oscar Von Engeln.

Although I had been in the habit of making long tramps in all kinds of weather before I used a camera, I found that making negatives in cold weather was beset with difficulties even for the initiated. But after a time I found remedies for some of these troubles.

The protection of the operator from cold fingers, wet feet, frozen ears, etc., is of the first importance. Focusing and the adjusting of shutters, require fingers unencumbered by gloves. But very few of us have good enough blood circulation to do altogether without covering. I found the thing to wear was a pair of large, loose, heavy woolled sheep-skin gloves. These are very warm, and can be slipped on and off almost instantly, giving abundant opportunity to make adjustments before the hands get chilled. Snow has an ugly habit of melting on the shoes from the warmth of the feet, and will work in through lace and button holes. Instead of using rubber boots to overcome this (which would tend to

keep indoors our feminine friends), the following device will be found neat and effective: Get a pair of common rubber overshoes. Before putting these on, procure a piece of thin sheet rubber, five inches wide, and about a yard long. Wrap this around your foot over the shoe at the instep as if applying a bandage, and then up the leg, allowing each edge to overlap the one below. When the necessary height is reached, the loose end may be fastened by a band or otherwise. Put your rubbers on now, and you have a waterproof protection. Use eartabs and a muffler about the neck.

Our cameras, too, need some attention. Sharpen the steel points on the legs of your tripod. I found out how essential sharp points are one day when on smooth ice while a wind was blowing. If your focusing cloth is in one square sheet, do not fail to have a piece of elastic sewn all along one side, and the ends of it fastened together so that a large enough opening will be left to slip over the bellows and up to the box. It will then stay with you. Carry the camera open, with the bellows extended and the tripod attached, after making the first exposure. Also have the shutter open. You will then be ready to set up quickly, thereby avoiding numberless chills.

Perhaps the most novel fact connected with this phase of the art is the shortness of exposure necessary. The negative of the winter picture of the set which accompanies this paper, was made in one-fifth second, $f/16$, three o'clock p. m., with a hazy sky. This shortness of exposure required makes it an ideal time to get good cloud negatives with your landscape. Both sky and land come up correctly in the developer; no doctoring is needed to get true values.

Do not use pyro for developing snow pictures. Pyro is my summer favorite, but somehow it does not render the clear shadows so essential in snow work. Cramer's metol hydro developer is admirable, both for his and Seed's plates.

OSCAR VON ENGELN.



N. Pomeroy, Jr.

"OFT IN THE STILLY NIGHT."

AN INTERESTING PHOTOGRAPH.



The accompanying picture was taken by George M. Still, of Brooklyn, at his summer home at Ronkonkoma, L. I., and is considered by photographers to whom it has been shown to be a most remarkable picture of an object in motion. Mr. Still, whose expert knowledge runs along the line of oysters rather than photography, took the picture on a snap shot while the boy was tossing the ball in the air.

When shown to G. W. Pach, of the firm of Pach Bros., the well known photographers, he declared it to be a picture that probably could never be taken as clearly, even under the same conditions again. When Pach Bros.

in turn showed the picture to other photographers, they said they would need an affidavit that the picture was not a "fake," but when fully assured that it was taken "on the square," agreed that it was a remarkable picture of a moving ball.

A. B. SCUDDER.

[Apart from the fact that the ball in its "arrested motion," caught just at the moment before it begins its descent, could not probably be so clearly photographed again without many attempts, there is nothing remarkable in the picture.—EDS.]

PHOTOGRAPHING OBJECTS IN MOTION.

"Watchman," in the August number of the *AMERICAN AMATEUR PHOTOGRAPHER*, under the heading, "Is He Joking?" refers to an article by Relyag in the *Photographic News*, where he says that "If the shutter is not fast enough to get a broadside shot, or if the shutter is suitable and the light is not, to stand back as far as possible and holding the camera away from the body, swing the camera around in the arc of a circle of the same angular velocity as that of the carriage, releasing the shutter at the same time." I would like to say that the matter is perfectly correct in as far as my experience has gone. For instance, in one case, I was walking down the street, with a Brownie camera with me, recently, and seeing a noted bicycle racer approaching at quite a clip, I

thought to snap him, but despaired of getting any sort of a picture, as the Brownie shutter only works at about one-twenty-fifth of a second. However, I decided to try it, and as the rider approached I located him in the finder, and instead of holding the camera stationary and snapping as he went by, I took a more convenient way and turned my body as he approached, keeping him in the center of the finder, and as he passed at right angles to me, I snapped, and the result was a good picture of the rider and the houses on the opposite side a mass of blurs and streaks. I figured it out in this way, that had I held the camera steady and exposed as he passed, the gait at which he was riding requiring an exposure of about one hundredth second in order to show no blur, the rider would have been indistinguishable on account of the movement. But as turn-



"PEONIES."

(See page 41.)

Negative on Carbutt's Polychromatic Plate without color screen. Print on Vinco smooth.

ing the camera to keep him in the finder, the camera, although it only moved a few inches, while he was going many feet, it was, approximately, going at the same rate as the cyclist, and so the result was as perfect as though rider and camera had been absolutely stationary. However, the camera moving approximately at the same rate as the rider, and the houses on the opposite side being stationary, the result was as though the camera had been held steady and the houses travelling by at the above rate. I can explain it in no other manner, but would advise all the readers of the Contribution Box to try that scheme whenever they have a chance, and I can assure them as good results as I got.

W. J. MERRILL,
"The Oaks," Messina, Fla.

The Use of the Wynne Meter.—Second Article.

By HENRY WENZEL, JR.

THAT our first article failed to answer many inquiries in regard to the above subject, we well knew, and the same will be said by many readers of this, our second paper, in which we endeavor to answer a few of the questions recently addressed to the proprietors of the various photo stock houses throughout the country, to the editors of photographic magazines and to ourselves.

We have had requests for dials showing U. S. numbers in place of F. values. To such requests we have had to reply that the demand hardly warrants printing the special dials and speed cards (for the speed cards would then have to show plate speed in U. S. numbers). The U. S. system having no standing at present (the Royal Photographic Society, which gave it birth in 1881, having recommended its discontinuance in 1900. See A. A. P., August, 1900), nor any real excuse for its existence and its falling more and more into disuse daily, are other reasons for our preferring not to print dials tending to foster its use. On page 11 of our new instruction book the U. S. equivalents of all values from $f/4$ to $f/64$ are shown; this table will also show the impracticability of printing the meter dials in the U. S. system, for if three figures are required to express the U. S. equivalent of $f/64$, i. e., U. S. 256, how impracticable it would be to set down on dial and speed card the equivalents for say $f/111$ to $f/362$, inclusive!

When allowing the sensitive paper in the meter to color to the standard tint (always, outdoors, in the shadow of the body) many find the new "Rapid Deadmatch" paper colors in reality to such an absolute deadmatch that for a shade or two before the colors appear as one it is quite necessary to be on the alert or the proper tint will be passed. No complaints are made, for everybody is satisfied at last that a perfect paper is to be had (and they are having it so rapidly that at the present writing we have none in stock), but suggestions like the following have been made by one user of the meter to another and are now repeated by the writer for the benefit of all: Hold the meter in one hand and a watch in the other; find out by one trial how long it takes for the meter to color under ordinary conditions; after this first trial always allow the paper to color for about three-quarters of this time before looking at it; its appearance will then indicate the need of a few or many more seconds time to reach the standard tint; these may be given one or two at a time. In this way, which has ever been the writer's method, it is quite impossible to go beyond the proper tint. A correspondent suggests as an advantage of this method that the eye is better able to judge the match of tint and standard when not compelled to be constantly on the alert for the full period required for paper to darken.

The spring in the back of the meter case may be made to insure a closer contact of felt and sensitive paper should the latter fail to turn readily. A very simple way of remedying the matter, however, is simply to make a small dog ear on one or two corners of the paper; these pressing against the felt will cause the paper to revolve with it.

As there is a slight difference between old cases and those now in use, and as the thickness and bevel of the dial glasses vary slightly, it would be better to send meters requiring new dial and glass to the company, as otherwise one must take chances of securing a perfect fit. No charge is made for fitting up meters other than the cost of the supplies used.

Every user of the Wynne meter, and the writer was one of them, is indebted to the various photographic magazines, but especially to the AMERICAN AMATEUR PHOTOGRAPHER, for allowing the interchange of ideas in their correspondence columns, which served to bring about the change from the letters of complaint that had to be answered by the writer on assuming charge of the American agency, to the letters of commendation now arriving in every mail.

Words From The Watch-Tower.

BY WATCHMAN.

ACCORDING to *Photography*, a well-known authority now puts the lantern slide as a test for a good photographer. He says: "It has been said that any one can press the button, but show me a good lantern slide maker and I will show you a good photographer." Judging by this test, and it really is a good one, the good photographers of America rarely turn their attention to lantern slides, as although, in the course of the year, I see many hundreds of what should be the best, a really good, not to say a perfect, slide is a *rara avis*. In those I do not include the work of professional slide makers whose slides must be of the all too "brilliant" kind to please the public to which they cater, but that of the amateur who works to please himself, and who should know both what constitutes a good slide and how to make it. A perfect slide is at once the most beautiful and the most generally useful of all photographic productions, and why more of our best men and women—and we have many, very many of both—do not turn their attention to slide making is beyond my comprehension.

* * *

Speaking of slides reminds me of the pleasing fact that W. Archibald, whose good work has been frequently noticed in this magazine, has gained a bronze medal in the meteorological class of *Photography's* recent competition.

* * *

Why are we so far behind most other nations in the popularizing of the pictorial post card? While probably the great bulk of those that pass through the post office are the outcome of the printing press, vast numbers owe their origin to the camera, and our photographers are not usually less enterprising than their European brethren. Judging from a recently issued report of the German Imperial Post Office, German photographers should be having their hands pretty full. There seems to pass through the post office on an average per week 10,128,568, or nearly a million and a half per day, entailing a postage of \$120,000.

Photography, as is well known, amongst its many uses includes that of bringing together people that otherwise would never have met, and making many happy weddings that but for it would never have occurred. Here is one vouched for by *Pearson's Weekly*: "Only a few weeks ago a marriage was celebrated in fashionable London which had its origin in the wonderful pictures of the biograph. The bridegroom was a young stockbroker, named Sydney Fortescue, the bride a remarkably pretty girl of well-connected parents living in a Surrey village. It was a case of love at first sight, and the scene a West End music hall, where, with remarkable smartness, was being reproduced on the screen the winning of the 1901 Derby. Among the fashionable crowd of spectators depicted, Fortescue caught sight of his divinity, the ideal girl he had pictured in his heart. She was one of a party who had travelled by coach, the name of which was plainly visible. While the biograph of the Derby was produced, the stockbroker was a constant frequenter of the music hall. Very soon his love blazed into a passion, and he determined to find the unknown object of his affections. With a strip of the film obtained from the makers, he traced the coach to its stable, and bit by bit discovered the girl whom he loved, but had never really seen. Fortescue was more fascinated than ever. The young lady was only nineteen years of age, of a bright, vivacious temperament, and, to the stockbroker's great joy, was not engaged. Consequently he lost no time in declaring his passion. Parents on both sides were satisfied, and the wedding took place." Thanks to the biograph.

* * *

The Patent List is sometimes amusing reading, and in some cases the question as to what possible benefit the patentee could expect to derive from his outlay must puzzle wiser heads than mine. The most recent of this class that I have come across is a new (?) reducer. It is a solution of **sulphate of copper** acidulated with hydrochloric acid, which may answer the purpose well enough; but, unless for the supposed honor of having introduced it, or being credited with its introduction, *cui bono*.

* * *

Why is it that we, I mean we who are dabblers with the camera on this side, are so little given to associate together compared with our brethren across the water? In Great Britain and all over the Continent there is hardly a little town without its photographic society or camera club, mostly confined to amateurs, but in some cases including also professionals, the members of which derive both pleasure and profit from the weekly, fortnightly or monthly meetings.

While it's not easy to answer the question, the result is patent to all who have had an opportunity of comparing the amateurs on the two sides. Here, while in relation to the population the amateur is probably more numerous than anywhere else, he does not, as a rule, take photography seriously. We have a few who are probably second to none either in aim or in execution, but they are few and far between, while the great mass of camera carriers look on photography as a mere amusement, knowing little of its technique and caring nothing about its art possibilities; content if by aimless snapping in season and out of season they get

something that looks a little like the object at which the camera was pointed.

The British and Continental amateur, on the other hand, shows the influence of his society or club. Contact with his fellow members and the comparing of their work with his own has raised the spirit of emulation, and as they who know are ever ready to help those who don't, he soon comes to know what he wants and how to get it.

Nor is that all. Such is the educational influence of such societies that many an amateur has learned enough to make him a much sought after assistant by those able to pay high salaries. Speaking of that at one such meeting recently its president, Hector Maclean, F. G. S., said it was within his knowledge that a large number of humble and not well-to-do individuals have attained lucrative positions through joining local photographic societies. "I could mention one instance of a gentleman now receiving a 'four-figure' income entirely through taking up amateur photography and attending photographic society meetings. The number of those who through similar means have risen from positions of a few shillings a week to distinguished appointments of from £500 to £1,000 per annum are too numerous to mention."

The Photo-Secession.

Hailing as we do the banding together of the men that have made what is recognized as "The American School," famous not only here but all over Great Britain and the European continent, and the formation of the Photo-secession, we are glad to give wider circulation to what may be considered their confession of faith, the following circular recently received from the moving spirit of the Association, Mr. Alfred Stieglitz.

The qualification for membership will, no doubt, be high, and get higher as time passes; but with such educational help as is to be found in *Camera Work*, which may be regarded as its feeder, no true artist need think it too high.

The object of the Photo-Secession is:

To advance photography as applied to pictorial expression; to draw together those Americans practicing or otherwise interested in the art, and to hold from time to time, at varying places, exhibitions not necessarily limited to the productions of the Photo-Secessionists or to American work.

The Photo-Secession consists of:

1. A Council, composed of a director and twelve others, to whom is absolutely committed the management of the affairs of the organization. The Council until 1905 shall consist of the founders of the organization. Thereafter the Council shall consist of the founders and five additional fellows elected biennially by the fellows.

2. Of fellows, chosen by the Council.

3. Of associates.

Fellows shall be entitled:

1. To elect from their own body the five additional members of the Council.
2. To the admission of two new pictures, without submission to the jury, in all exhibitions devoted solely to the work of the Photo-Secession, but no limit shall be placed upon the number of prints which they may submit to the jury.
3. To vote for the admission of applicants to associateship.

Associates shall be entitled:

1. To submit work to the jury at all Photo-Secession exhibitions.

2. To participate in such privileges as may be secured to the organization.

Membership in any class carries with it the right of admission to all private views of exhibitions held by the Photo-Secession and to a general card of admission thereto, as well as a right to participate in any general meeting called by the Council.

To be eligible to fellowship it is necessary to demonstrate to the satisfaction of the Council that the applicant is entitled by reason of his photographic work or labors in behalf of pictorial photography to this rank.

To be eligible to associateship, interest in the aims of the organization is the sole requirement.

The discipline of the organization shall be in the hands of the Council.

In order that the Photo-Secession may exercise a potent influence upon the welfare of pictorial photography, each member will be duly advised by the Council of the attitude which the Photo-Secession will assume toward any important exhibition and whether it is deemed desirable that the members of the Photo-Secession shall exhibit as a body, or individually.

As sympathy with the ideals of the Photo-Secession and mutual fellowship will actuate all members, it is unnecessary and impracticable to hamper the organization with constitution or by-laws.

Organization dues of five dollars, payable annually to the director prior to February first of each year will be assessed to meet incidental current expenses.

Members will receive intermittent printed communications relating to the activities of the Photo-Secession.

Council—John G. Bullock, Pennsylvania; Wm. B. Dyer, Illinois; Frank Eugene, New York; Dallett Fuguet, New York; Gertrude Kasebier, New York; Joseph T. Keiley, New York; Robert S. Redfield, Pennsylvania; Eva Watson-Schütze, Illinois; Eduard J. Steichen, New York; Alfred Stieglitz, New York; Edmund Stirling, Pennsylvania; John Francis Strauss, New York; Clarence H. White, Ohio.

Address all communications to Alfred Stieglitz, 1111 Madison avenue, New York, N. Y.

Notes.

RESTORING FOGGED OR LIGHT STRUCK BROMIDE PAPER.—According to Dr. Reiss, bromide paper that has been exposed or fogged may be converted into an excellent contact printing, or P. O. P., by immersion for fifteen minutes in a two per cent. solution of mercuric chloride, well washed and dried; all in the dark room or weak diffused light, of course. The converted paper is slow, requiring an exposure of about thirty minutes under an average negative in ordinary daylight, but the image is said to be exceptionally fine.

SUNLIGHT EFFECTS IN LANDSCAPE.—In a timely article on this subject *Photography* says: "The characteristic of a sunlight effect, apart from the mere presence of shadows, lies in the fact that the half-tones are, as it were, huddled up together at the two ends of the scale; in the gray-day effect they are more evenly distributed. The sunlight gives us the gradations in two well-marked groups; one includes all the parts directly shone upon by the sun (the high light gradations), and the other all the parts in shadow (the shadow gradations). The intermediate tones will be found, to a great extent, to be missing. The task before the photographer is to get such a result in his print.

"There is only one photographic method of doing this, and if that method is not resorted to the photographer who wants sunlight effects must put them in on his negative with stump, color, and *papier minérale*—a method, by the way, which in skilful hands is often very successful. The method we refer to is the use of a plate with as long a scale as possible, and of an exposure which, while not erring more than is avoidable in the direction of over-exposing the high lights, is at any rate certain in the more important matter of exposing for the shadows. The old rule "expose for the shadows and let the lights take care of themselves" is as important in this as in any side of photography. It must be followed up by correct development, the danger here being *over-development*. Many—we had almost written 'nearly all'—of the would-be sunlight pictures we see have all suggestion of sunshine taken out of them by the combination of the two defects under-exposure in the first place, and over-development, the result of hoping against hope that the shadow details may ultimately 'come out.'

"We might summarize the subject by recommending preferably a slow plate—because its range is generally greater—backed, of course; the correct exposure, also of course, but, what is not quite so obvious at first, the *minimum* correct exposure, followed by just sufficient development to give as much contrast between the different tones in the shadows as the subject requires. This will minimize the risk of over-developing the high lights, which causes the sunlight effect to be lost at once."

LIQUID GLUE is sometimes used for mounting squeegeed and backed P. O. P. prints and many other photographic purposes. Here is a method of making it: In a solution of borax in water, soak a good quality of glue until it has thoroughly imbibed the liquid. Pour off the surplus solution, and then put on the water bath and melt the glue. Let it cool down until the glue begins to set; then add, drop by drop, with agitation, enough acetic acid to check the tendency to solidification. If, after becoming quite cold, there is still a tendency to solidification, add a few drops more of the acid. The liquid should be of the consistency of ordinary mucilage at all times.

THE ANGLE OF COMFORT.—G. A. Story, A. R. A., speaking at the London Camera Club, said: "To comfortably enjoy a picture it should not include an angle greater than 28 degrees. An angle of 90 degrees which some opticians claim that their lenses will cover, is like trying to put a quart into a pint bottle. The longer you make your point of distance (which means the longer the focus of your lens) the flatter becomes your picture; the floors look level, and the buildings look upright, and so forth; while the nearer your point of distance, the greater the apparent distortion."

A NEW TONING SOLUTION.—Professor Valenta speaks very favorably of the substitution of thiocarbamide for sulphocyanide or any of the other preparations hitherto added to the solution of gold to form a toning bath. He says it is non-poisonous, does not give rise to double toning, does not attack the more delicate detail, and apparently keeps well. The method of making the bath is as follows: Dissolve 1 gramme

of thiocarbamide in 50cc. of water, and add sufficient of this solution to 25cc. of a 1 per cent. solution of chloride of gold to dissolve the precipitate first formed (about 14 to 15cc. will be required), then add 0.5g. of citric acid and add sufficient water to make a litre, and then add 10g. of salt. The prints should be washed in water first, and also after toning, and then fixed in a 10 per cent. solution of hypo. Referring to the new bath, *The British Journal of Photography* says: "We have been able to test this bath with two makes of P. O. P. and a collodio-chloride paper with excellent results, and found that toning takes place somewhat more quickly than with the sulphocyanide bath of normal constitution. The only point in its use to which we think attention need be called is the necessity for washing, after toning, as the toning bath being acid, there is, if this is not properly performed, danger of decomposition of the hypo, with possible sulphur toning."

A SUBSTITUTE FOR THE ALKALI IN THE DEVELOPER.—The German chemists to whom we are indebted for so many useful photographic preparations have given, or are about to give, us another which, according to Dr. König, will vastly increase the power of all the modern reducers or so-called developers, including pyro.

The new chemical is sodium amidoacetate, and its use in the developer has been patented by Maister, Lucius and Brüning, of Höchst a Main, and if all that is claimed for it be true, it will soon find its way into our market. It is said to keep well, has no action on the skin, and is an entire preventive of fog, while it adds immensely to the rapidity and density giving power of the reducer.

THREE-COLOR LANTERN SLIDES.—Why are we on this side going so slow in this interesting phase of photography? It is about two years since, as a result of some correspondence with "The Lumiere N. A. Co.," we told our readers that everything necessary for their production in the simplest possible manner would soon be found in our stock houses, but so far it has not materialized. This is all the more surprising, as from our British exchanges we see that a demonstrator from the company is going about from society to society showing how easily transparencies of great beauty may be produced by the method as now modified, and how everything necessary, including prepared mica films—a recent improvement—may be procured for a few dollars.

IMPROVED BLUE PRINTS.—Professor Namias recommends the addition of five per cent. of citric acid to the ordinary blue-print solution, preferably with the green ammonio-citrate, as giving a finer and more intense blue. He says also that the blue may be converted into a good black by first immersing it in a solution of sodium carbonate; then in a weak solution of potassium bichromate, and after well washing floating on a one per cent. solution of gallic acid.

ESTIMATING EXPOSURE IN DIMLY LIGHTED INTERIORS.—Various methods have from time to time been recommended for ascertaining the exposure of dimly lighted interiors, where the ordinary exposure meter had failed, but the following is one of the most reliable that we have tried. It was communicated to a meeting of the North West London

Photographic Society by Walter Kilbey. Having found that the exposure meter was not to be depended on in very dull light in an interior he adopted the following plan which had never failed. He stopped down the lens to the smallest stop, and placed his head under the focusing cloth. Then the eyes were closed for about half a minute and opened again. The lens aperture was gradually opened until faint detail was seen in the deeper shadows. At that aperture, with a medium rapid plate, ten minutes' exposure was given. For example, if $f/16$ was the aperture by which faint detail was seen, then a $f/11$ exposure would be five minutes, and $f/22$ twenty minutes. In his remarks on development he gave the formula which he had found extremely valuable in many difficult cases:

No. 1.—Pyro, 45 grains; metol, 40 grains; potassium metabisulphite, 90 grains; bromide, 10 grains; water, 20 ounces.

No. 2.—Soda carbonate, 3 ounces; water, 20 ounces.

No. 3.—Bromide, 100 grs.; soda sulphite, 300 grs.; water, 20 ounces.

Use 2 ounces of No. 1, and add 2 drams of No. 3. Add 1 dram of No. 2 every minute, until first signs of development were observed; the plate was then allowed to develop gradually. One photograph, the interior of a room, was shown. Though the mid-summer sun shone through the windows, there was no sign of halation anywhere. The houses on the opposite side of the street and the texture of the thin Indian muslin curtains could be seen plainly. The correct exposure for the outside scene was one-tenth second at $f/16$, and inside of room was 10 minutes at same aperture. Thus the outside view was over-exposed 6,000 times.

MEASURING EXPOSURE BY THE RADIOMETER.—Dr. H. Baurath, in the *Photographisches Wochenblatt*, describes an arrangement he has made for enlarging by daylight. As it is very simple, inexpensive, and practical, we give a description of the details. Dr. Baurath's dark room has a sloping roof containing a window about 32 inches broad by 48 inches long, glazed with a stout, single sheet of glass. Beneath this, on a level with the lower edge of the window frame, is a shelf about 34 inches wide. The front and sides are closed with wood, and afford a convenient means of fastening the shelf to the window frame or rafters. The shelf has an aperture of the size of the negative to be enlarged. Beneath it a camera may be fixed with the lens downwards, directed to the floor. Placed at some distance below the camera is a drawing board supported on trestles, or a tripod. The board carries the bromide paper, and it should be accurately levelled. The front of the structure enclosing the window is provided with a sliding door, through which the negative may be introduced and placed in the frame corresponding with the ground glass screen of the camera, which should be removed or turned back. In front of the edge of the negative, near the sliding door we have just described, is placed a Crookes' radiometer. Between the radiometer and the sliding door a tube, about $1\frac{1}{4}$ inches in diameter, is introduced through the shelf. This tube is provided with elbows at both ends. The top one is turned towards the radiometer, and the bottom one towards the eye of the operator. Two small squares of looking glass placed diagonally in the elbows reflect the image of the radiometer through the tube of the eye of the operator, who is thus able to count the number of turns the radiometer

makes, without permitting any light to pass into the dark room. The rack and pinion of the camera are used for focusing the enlargement. As the radiometer is sensitive to heat as well as light, care should be taken to avoid exposure when making the enlargement. A trial will give the number of turns the radiometer should make for the exposure. Dr. Baurath has made experiments with the radiometer by exposing it to electric light, and has found it so reliable, that the speed at different distances varied almost with proportional exactitude. Only when the light was so weak that merely one or two revolutions per minute were made, did it give an incorrect reading. As an aid to counting the revolutions of the vane of the radiometer, one of the wings should be perforated with a round hole. This passes a flash of light at each revolution. Whether the light be dull or bright, the number of turns indicates the exposure that should be given, as they are more or less rapid according to the light intensity.

According to our experience, the employment of the radiometer as a photometer, and more especially as an actinometer, is attended with considerable difficulty and uncertainty, as it is more sensitive to heat than to light; and to the less than the more refractive end of the spectrum. On its introduction, now many years ago, it was hailed as the ideal actinometer, only to be laid aside in a few months as altogether unreliable. In other words, the richer the tested light in the so-called heat rays, and consequently the poorer in chemical or actinic rays, the greater the rapidity of the revolving vanes.

THE ILLINOIS COLLEGE OF PHOTOGRAPHY.—We are requested to intimate that on March 1, 1903, the tuition fee for the two and three year courses, or "life scholarship," of this now large and continually growing institution will be advanced to two hundred and fifty dollars, and that a further increase will be made every few months till it has reached four hundred dollars.

It is the desire of the executive to make the college a recognized institution of learning for all classes, and with that end in view both curriculum and faculty are being constantly added to. We heartily wish them all the success they can desire.

· BACKING FOR ORTHOCHROMATIC PLATES.—It is clear that a black backing is necessary, writes Edmund J. Mills in the *British Journal Almanac*. Caramel backing lets through far too much of the red. The following is a satisfactory composition: White dextrine, 2 parts; gas black, $1\frac{1}{2}$ parts; white scentless castile soap, 1; glycerine, $\frac{3}{4}$; water, 5. Boil the water, add the glycerine and dextrine and stir until dissolved; then add the soap in thin shavings, stirring all the time. Remove from the source of heat, pour on a little methylated spirit and stir in the gas black rapidly. Squeeze through muslin. The preparation is liquid at first but in a few days stiffens into a thick paste and is then easily laid on. Only a very thin layer is required. It dries as soap dries, is neither brittle nor sticky and can be removed with a wet sponge.

Progress in Color Photography.

MR. SANGER-SHEPHERD'S METHODS OF MAKING THREE-COLOR

PRINTS ON PAPER.

We are indebted to our contemporary, *The Amateur Photographer*, for the following report of a demonstration by Mr. Sanger Shepherd of his method of obtaining color prints on paper, given before the London Camera Club:

Color photography has been "discovered" too often, for any anticipation such as was evident before the meeting, not to be tinged with incredulity, and although the method brought forward by Mr. Sanger Shepherd is scientifically interesting, and may very well constitute one of those little steps forward which are valuable in the aggregate, it is doubtful if it can be regarded as epoch-making in the history of color photography.

The lecturer prefaced his demonstration by saying he was afraid he had made a mistake by leading his hearers to expect too much from him, and said, further, that nothing that he had done would equal the result achieved by Mr. Ives, whose color results he did not think could be beaten. From Mr. Sanger Shepherd's point of view the Ives Kromscope may produce very excellent results, but the man who is absolutely satisfied with the results achieved by Mr. Ives is, from an artistic point of view, not at all difficult to satisfy. However, that is a point quite outside the discovery of color photography, and it is quite possible that even when it does come into use, pictorialists will still be content to reproduce in monotone, leaving the colors to the scientist and the technician, who are neither of them worried by such matters as values and tone.

Mr. Sanger Shepherd mentioned the aid that Sir William Abney and Mr. Cadett had rendered to the progress of color photography, and also gave it as his opinion that practically the last word had been said about the results as transparencies. But when paper was to be used it was quite another question. The first, and perhaps the chief demand was for portraits in color, and no process would be worthy of consideration that did not permit of retouching. Without retouching, the professional photographer, as we know him now, could not exist, and it was necessary that the photographs of the future should also be capable of being similarly worked upon. By his method the film supports could be retouched, and the print was, he contended, under complete control.

Briefly described, the process was as follows: A sheet of gelatinised paper, such as bromide paper, is brought into contact, under water, with one of the three-color films, or screens, used in Mr. Shepherd's process, this film having previously been freshly stained with a red dye. The film and the gelatinised paper are then squeegeed together, much in the way one treats a carbon transfer, and the gelatine gradually absorbs the color from the film. When sufficient color has been taken up, the next film, stained yellow, is laid on the paper in correct register, and finally the third film, stained blue, is put on in the same way. By this means

the three colors amalgamate, and the finished print is obtained. The process may be repeated *ad infinitum*, provided that the relief films are resoaked in the dye bath each time.

Several examples were produced, and the lecturer gave a practical demonstration of his method. One example was a color photograph of the cover of "Pears' Annual," and certainly the result was very good, something of an achievement.

Whatever the real merits, and whatever may be the ultimate outcome of any, or all, of the existing methods of three-color photography, the subject is occupying so much attention that each new departure should receive careful attention, and hence we repeat the following report of Mr. Shepherd's lecture:

In introducing his subject Mr. Shepherd said that he must not be held responsible for the glowing statements which have been circulated as to the merits of his method, still he was now about to lay before the Camera Club a stage in progress which he trusted would be of importance in connection with heliochromy on paper; a step to popularize this class of color work and place it within the power of every amateur to himself make actual prints.

PROJECTION METHODS—THE WORK OF MR. IVES.

The lecturer next touched on the remarkable work of Mr. Frederic E. Ives, whose chromoscope was referred to as quite an epoch-marking introduction, realistic in the highest sense. At the same time it should not be forgotten, we may observe, that Mr. Ives was as successful with his lantern slides, made by superimposing three films, as he was with his photochromoscope, although he never made a leading feature of composite lantern slides, he being impressed with the greater beauty of the result obtainable by the photochromoscope or by triple projection. One very severe test of the perfection of a composite transparency process is the reproduction of a subject in monochrome so that no tint of color is shown at any stage in the gradation—no appearance analogous to that of double toning. Mr. Ives was in the habit of showing a lantern slide, consisting of a monochrome subject, surrounded by colored stripes, the monochrome showing no trace of color, but when the component films of the slide were separated it was seen that these films were cyan-blue, yellow, and magenta red.

THE NEED OF THE DAY—A SIMPLE PROCESS ON PAPER.

Mr. Shepherd said that when slides are shown the invariable result is an inquiry for similar prints on paper, and the easy production of satisfactory prints on paper may be looked upon as the problem of the day in connection with color photography. At the same time, Mr. Shepherd rather vehemently denounced what he called the "lower class press" for so often puffing inferior attempts, and suggesting that the ideal method had been reached. He then considered the essential features of an ideal method for producing prints on paper, and he reminded his hearers that whatever might be the reconstituting process, whether triple projection, the photochromoscope, a three-film lantern slide, or a triple print on paper, the same triad of negatives will serve.

MR. SANGER SHEPHERD'S NEW SEMI-MECHANICAL METHOD OF PRINTING
WITH WATER STAINS.

It is in no sense a reproach to Mr. Sanger Shepherd to say that many of the materials which he uses are proprietary articles, manufactured and sold by Messrs. Sanger Shepherd & Co. under various names, as, for example, "Sanger Shepherd films" and "sensitising salts." Still, the almost total absence of the inner scientific or technical details makes it a little difficult for us to speak quite definitely of his method from the chemical and physical standpoints. Apparently, however, the red and yellow films of Mr. Shepherd's ordinary triple helichrome lantern slides are made by some modification of the Lumière process of 1895, which depends on the use of silver bromide in bichromated gelatine; the silver bromide serving as a means of confining the action of light to an extremely thin stratum of the gelatine, so as to give due half-tone. Messrs. Lumière's original mixture was a 10 per cent. solution of gelatine, to which 5 per cent. of ammonium bichromate and from 5 to 10 per cent. of emulsified silver bromide is added. This is spread on a transparent base, exposed as in the old Despaquis carbon process on mica, and development is with warm water exactly like a carbon print. A gelatinous relief is thus obtained, the gradations being very obvious owing to the silver bromide. The development being finished, the silver bromide is fixed out in a "hypo" bath, and the relief is stained by means of a suitable aniline dye. The Lumière method of making the individual monochromes of the composite picture may be looked upon as a turning point; one special advantage of this method being that the three individual reliefs may be assembled, and that before the final mounting all or any one may be modified by soaking out some of the color, or by restaining. As Mr. Shepherd referred to the function of silver bromide in his developed film, it may be reasonable to suppose that in a more or less remote way his method of making the individual films depends on similar principles. At any rate, Mr. Shepherd's result is a relief of stained gelatine of the same character as the Lumière relief.

THE GELATINOUS RELIEFS AS PRINTING PLATES.

Mr. Shepherd told his audience how Mr. Bartlett left one of the stained films on damp blotting paper, and noticing a set-off of the stain, it occurred to him that the film might be used as a printing surface; an incident which recalls the story of the Florentine goldsmith, Maso Finiguerra, who, by a somewhat similar casual observation, is said to have been made to realize the possibility of printing from an intaglio engraved plate. After some experiments, it was found that a beautifully delicate impression of a stained relief could be made on gelatinized paper by squeegeeing the two together, allowing them to remain a few minutes or longer, and then stripping the stained film from the still wet paper. The film being now once more charged with stain, a second impression may be taken, and so on, probably to the extent of many hundreds. Quite apart from heliochromy, we have here a printing method of considerable interest, a method not very dissimilar in its nature from the well-known "hydropy," or water collotype of Charles Cros (see article

Hydrotpe in the Dictionary of Photography, 8th edition), one of the pioneers of three-color photography. It is interesting to know that the hydrotpe process, like the Shepherd process of printing in stain from a gelatine relief, was originally devised as an aid to three-color work. The hydrotpe process is shortly noticed in Ducos du Hauron's great work on the three-color process, "*La Triplce Photographique*" (p. 326); Ducos du Hauron saying, "Under the name of Hydrotpe, Charles Cros patented, in 1880, two different forms of the same method, having for its principal object the production of the three prints, yellow, blue and red, forming the polychrome." The account of the hydrotpe here given is rather vague and insufficient, but before returning to the subject we may say that many processes of a similar nature exist, including one in which the ordinary water colors may be printed from a collotype plate, the water colors actually adhering to the exposed parts rather than the unexposed parts.

HOW MR. SHEPHERD MAKES HIS COMPOSITE PRINTS ON PAPER AND OTHER SURFACES.

From the three negatives is prepared a set of three usual gelatine relief films, each on its base of transparent celluloid. The pink-stained film, having been soaked in the ordinary dye-bath, is squeegeed down on a wet sheet of gelantized (and mordanted) paper, this resting face upwards on a glass plate. The color begins at once to diffuse into the mordanted gelatine, and after a sufficient time the film is stripped off, leaving a filmless impression in the pure aniline color. The yellow-stained film is now used in a similar way as a printing plate on the same sheet of gelatinized paper, and finally the blue impression is made. Register is easy by reason of the transparency of the celluloid base.

PRINTS ON OTHER MATERIAL THAN PAPER; IVORY FOR EXAMPLE.

Mr. Shepherd's process, whether for monochromes or for three-color work, is obviously applicable to any surface that will absorb aniline dye, as, for example, ivory, or opal glass thinly gelantized. Thus it will be seen that there is a wide scope for experiment.

THE RESULTS SHOWN AND THE PRACTICABILITY OF THE METHOD.

But few results were shown; indeed, only two prints came into our hands. One, a small flower subject from nature (about three inches square,) showed excellent qualities, and promises well; while a much-reduced reproduction of the colored cover of "*Pears' Annual*" possesses a charm which the original lacks, perhaps owing to the slight softening effect due to the diffusion of the color, a softness akin to that of ozotype. The practicability of the method as a regular process for amateurs and professionals will largely depend on the ease with which the relative intensity of the three separate impressions can be controlled, and on the possibility of obtaining a series of prints either identical or with controlled differences.

RETOUCHING THE PRINTS.

As there is no film covering the color, and the coloring materials are virtually mixed, retouching by means of the original staining colors

is easy, the colors being applied by friction, with an almost dry brush. Not only can the finished print be retouched, but retouching may be done at any stage.

SOME NOTES ON THE HYDROTYPE.

The essential difference between the normal form of hydrotype and the new method is that exposure is under a positive in the case of hydrotype, the *face* of the gelatine is exposed, and soaking in cold water replaces development in hot water. The method of printing may be practically the same, but, as the register can be seen through a glass plate, there is no very special advantage in using celluloid for the hydrotype printing plate. Any commercial insensitive or sensitive collotype surface may be used, for example, a sinop plate, a Balagny collotype film, or a Fulton-Gillard celluloid collotype plate. The French patent of Cros (No. 139396, of 29th October, 1880, and addition dated 25th June, 1881) is rich in suggestive and discursive points, but these cannot well be summarized in a few lines. According to contemporary reports (*Bulletin des Societes Savantes*, 1881, p. 60, and *Moniteur Industriel*, 1881, 220), Cros exhibited excellent results, also made standardized color screens and dyes.

THE DISCUSSION: SUGGESTIONS OF INTEREST.

Mr. Wilmer touched on the possibility of using the original negatives as printing surfaces. Mr. T. C. Porter pointed out that the first, or basic blue impression might be derived from a silver print by the ferric-chloride and ferricyanide toning process. Mr. Cadett eulogized Mr. Shepherd, and spoke of the importance of using ortho-chromatic plates for ordinary work. Dr. Lindsay Johnson contravened a plaint of Mr. Shepherd as to the unreliability and variability of commercial aniline dyes; Dr. Johnson having found the extensive series manufactured by the Baden Aniline Company, and supplied by Mr. Kanthack, of 18, Berners street, to be quite constant optically and chemically. Mr. Bridges Lee said that in spite of the fact that some three-color heliochromes are really approximations to truth, it must be remembered that the method is not satisfactory or final. We must strive to realize a direct, exact and natural helichromy.

Mr. W. E. Brewerton, worker in photography along the same line, but independently of Mr. Shepherd, says: The slight difference in my process I will explain. I found it very difficult to obtain a blue dye which would readily give itself up to the gelatine on the paper, so I first printed the blue in ferro-prussiate, thus obtaining a good foundation for the red and yellow transfers. Probably Mr. Sanger Shepherd has been able to obtain a suitable blue dye for the purpose; the red and yellow stains supplied by him are perfect, and very little trouble should be found in transferring them to the paper. Another difference in the process is that I allow the print after uniting it to the celluloid film, *to dry*, thus obtaining almost complete absorption of the dye from the carbon print to the paper, an advantage, I think, as the film can be stained up to its required density, instead of over-staining, and stripping off when wet, and the color only partly absorbed.

Difficulty was found in preventing the embossed gelatine from adhering to the paper, but I found, by slightly rubbing the two surfaces with French chalk—of course, this must be done when the print is dry—this does not in the least prevent the dye from going from one to the other, nor does it give any trouble in re-dyeing the embossed image. It will be found that, when dry, the paper strips off quite as easily as the highly glazed prints on the P. O. P. paper—so well known to all. This glazed surface, if not appreciated, entirely disappears when the print is mounted, paste being used for the purpose.

I only hope the process will be tried by all lovers of tri-color work, and that we shall see many examples in the forthcoming exhibitions.

The "Sinop" Collotype Process.

It has always been a puzzle to us to account for the fact that the simple and beautiful collotype process has not caught on in America. To make a plate ready for printing in an ordinary letter copying press entails little more trouble than the making of a negative for the ordinary printing frame, and once ready for inking, dozens of copies in any desired color, quite equal to and for some purposes better than prints made in the ordinary way, may be made in a few minutes.

To the professional who wants to do a trade in Christmas cards, postal cards, or illustrated booklets for advertising purposes, collotype should prove a boon and a blessing; and simple and suitable as it is, the recent improvement and simplification known as "Sinop" will be found better still. It is patented, but the only thing, so far as we can see, that can be so protected is the sinop plate, which, along with the special iron bed plate and frisket, is supplied by Penrose & Co., of London, England.

In the hope that it needs only to be known to secure such a demand as will either bring it to this side or induce some one to undertake its production here, we clip from The British Journal of Photography the following abstract of a pamphlet published by Primrose & Co.:

The routine of the process is that a plate is taken from the box, exposed in the printing frame under a negative for from two to ten minutes at most, then placed under the water tap for ten minutes, drained and soaked in glycerine for fifteen minutes, all surplus water blotted off, fixed to a printing bed, and inked up with a printer's roller in about another ten minutes, and then printed from, the impression being taken in an ordinary letter copying press. The color of the ink, the strength of the image, the nature of the paper, the size of the margins, are all matters under the control of the operator, who thus has it in his power to produce artistic effects such as no other process is capable of yielding. Post cards, memos, Christmas cards, letter headings, etc., can be prepared, and prints may be done on paper, cardboard, silk, satin, leather, celluloid, etc. The three color process can be applied to this method of printing with the most charming results, and with greater ease than with any other process, because the pure white ground of the "Sinop" film enables the inking to be exactly judged.

The "Sinop" patented process consists essentially of the "Sinop" plates and the special iron bed plate and frisket for printing. The iron bed has hinged to it an iron frame to support the frisket sheet, which is cut out in the center to a size suitable for the picture, so as to form a clean margin.

To save expense, beginners are advised to use a letter copying press for the

impressions. Sometimes either the bed or the iron plate which gives the pressure is wanting in flatness. In such case the impression would be bad, and the print accordingly gray and patchy. This defect can be quite easily remedied by having the platen of the press replaned. Any local engineer would attend to this for a moderate charge.

The various accessories contained in the "Sinop" outfit are: 1, the "Sinop" bed plate; 2, india rubber pad for pressure; 3, inking board; 4, inking roller; 5, trimming knife; 6, india rubber flat squeegee; 7, three tins of ink; 8, a bottle of glycerine; 9, a bottle of turpentine; 10, bottle of sensitizing solution; 11, jar of crystals for making sensitizing solution; 12, a soft sponge; 13, ink knife; 14, box of 1½ dozen "Sinop" plates; 15, portfolio, containing six sheets of frisket paper, 12 sheets black masking paper, strips of paraffin paper for margins, blotting paper, gelatine paper for fixing the plate to the bed, various papers for printing.

HINTS ON MAKING REVERSED NEGATIVES FOR THE "SINOP"

COLLOTYPE PROCESS.

As with all photo mechanical processes, where the printing surface is applied directly to the photographic negative, a reversed image is required, otherwise the final print would be reversed in relation to left and right.

Reversed negatives can be obtained in various ways.

The most satisfactory method when copying indoors is to have a reflecting mirror or prism attached before or behind the lens.

A simple method is to reverse the plate in the dark slide, so that the image has to pass through the glass to the back of the film. In this case the glass side should be carefully cleaned and the film side protected from contact with the spring by means of a sheet of black paper. A slight alteration of focus is made by this method, and must be allowed for by reversing the ground glass in its frame. With hand cameras there need be no trouble about the focus. Thin celluloid films can generally be printed from the reverse side without disadvantage.

Some dry plate makers supply stripping plates. These are exposed and developed in the usual manner. When the negative is dry, the film is cut through to the glass with a sharp knife at about ¼ inch from the edges. The film can then be stripped from the glass with the greatest ease, and such film can be printed from either side.

Another way which is capable of dealing with any negatives already in existence is to immerse the plate (which must be unvarnished) in a bath of formaline for about ten minutes. It is then drained and dried over a spirit lamp. The film is now cut through a sharp knife about ¼ inch from the edges. Then it is immersed in a solution of 5 per cent. hydrochloric acid for five to ten minutes, drained, and dipped immediately in a solution of carbonate of soda 5 per cent. strength. Small bubbles are evolved, and the film will come off the glass easily. It can then be transferred the other side up on the glass. To avoid tearing the film in squeezing it down, a sheet of damp paper is placed over it.

PRELIMINARY PREPARATIONS.

Whilst it has been found possible to keep the "Sinop" collotype plates for several months in the sensitized state, and still obtain good results from them, there is the possible disadvantage that a gradually increased exposure and lengthened time of washing is required the longer the plates are kept.

As it would be impossible to forecast the time the plates would remain in the hands of agents and dealers before reaching the user, the manufacturers feel that the process might be seriously compromised by old plates being sent out, and they have accordingly decided to send out plates plain coated with the "Sinop" emulsion, leaving the simple process of sensitizing to be performed by the user.

This sensitizing simply consists in immersing the plate for three minutes in a 2 per cent. bath of bichromate, placing it in a draining rack and allowing it to dry. No drying box is required. The plates are simply allowed to stand over right in a dark room, cupboard, or ordinary room darkened, and will be found ready for use next morning. They have been found to keep well for two months, with the usual precautions against light and moisture.

WORKING INSTRUCTIONS.

All manipulations of the "Sinop" plate can be done in an ordinary dark room, lighted by artificial light of any kind (except the electric arc), or in a photographic dark room illuminated with plenty of yellow light.

The preparation of the "Sinop" plate may be considered as divided into four stages, viz.: 1. Exposure under the negative. 2. Washing out the plate and damping. 3. Fixing the plate to the bed and preparing the frisket. 4. Inking up and printing.

I.—EXPOSURE.

A mask should be cut out of black paper the full size of the printing frame, the opening in the center being cut out to suit the picture. This mask is laid on the front glass of the printing frame, and the negative laid squarely over the opening, taking care that only the desired picture is unprotected by the mask, and that the margins are symmetrical. Put down the "Sinop" plate gently with its emulsion side in contact with the gelatine side of the negative, care being taken to get the picture in the center of the plate. The frame is closed up and its front exposed to diffused daylight. For an ordinary negative without stain or veil and with good gradation, two minutes will be sufficient time. One may see how the exposure is progressing on opening one-half of the back of the frame, laid on a table in a dimly lighted room, and inspecting the back of the "Sinop" plate. When the image is faintly seen as a light gray positive, the shadows being scarcely distinguishable from the high lights and the whole without detail, the exposure must be stopped. A little practice will soon guide one giving the correct exposure.

II.—WASHING AND DAMPING.

The "Sinop" plate is removed from the frame in the dark room, and should show a positive image of a reddish color similar to an underprinted proof on P. O. P. paper. If the image is complete in all its gradations the final result will be good. The plate is immersed in a dish full of water several times changed until it becomes quite white, the yellow color being washed away, and the reddish image almost entirely disappearing. This operation requires about ten to fifteen minutes, according to the weather and the temperature of the water. It is better to wash thoroughly, and the operator can without risk allow the plate to remain one or two hours in cold water. Once the plate is immersed in water it is no longer sensitive to light.

When the plate is sufficiently washed, it is drained and immersed in the following solution: Glycerine, 75 parts; water, 25 parts. The plate must be quite covered with this solution, and should remain in it about fifteen minutes as a rule, though, if one desires to obtain only five or six prints, eight or ten minutes' damping will be quite sufficient. Should one wish to pull a greater number, say, 30, 40, 100, or more, it is advisable to let the plate remain a longer time, in order that it may retain its dampness during the printing.

N. B.—Always use the same dishes for washing and damping, in order to avoid contamination of the "Sinop" plate with foreign matter, which might be prejudicial to its successful working. Hypo, alum, pyro, and ammonia are especially to be guarded against.

III.—FIXING THE PLATE ON THE BED AND MAKING THE MASK.

Place the bed on the table with the frisket frame laid back to the left of the operator. Take a sheet of ordinary stiff paper (samples of which will be found in envelope A of the outfit), cut the exact size of the "Sinop" plate. Dip this paper in water so as to wet both sides evenly, and lay it down quite wet in the middle of the bed in accordance with the guide marks, applying the squeegee to force out all surplus moisture. Next take a sheet of the green colored gelatine coated paper, wet it, and lay it down over the first sheet. Being larger, it projects over the edges and adheres by the margins. The squeegee must be used to spread it out quite flat.

The "Sinop" plate is now drained slightly, and the back wiped perfectly clean.

Any speck of dust or grit might cause the plate to be cracked when the pressure is applied. The plate must be laid exactly over the under sheet, the edges corresponding. A light pressure with the fingers on the edges of the plate will be sufficient to make the plate adhere until the first squeeze in the press, which will finally fix it.

The surplus moisture is removed from the surface of the plate with a soft sponge, followed by blotting paper (see sample in envelope B of the outfit), and finally the drying is completed with a soft piece of clean linen.

The plate should now appear with a polished surface, without water markings, and in the center of it the picture will be seen like a fine engraving.

IV.—INKING UP AND PRINTING.

Those who have never handled a printer's roller will probably anticipate great difficulty in the inking. Nothing, however, is easier, and a few hours' practice will soon render the novice skilful in this part of the process.

A small portion of ink, not larger than the size of a pea, is taken on the point of the palette knife, and smeared smoothly on the inking board at the end nearest the operator in a strip equal to the length of the roller.

The roller is taken in the right hand and pushed forward, starting on the ink which has been laid. On reaching the other end of the board it is lifted off, brought back to the starting point, and pushed forward again. This is repeated over and over again, quickly or slowly until the ink is spread evenly and thinly all over the board and upon the roller. Should the roller not appear sufficiently charged with ink, a little more is added and distributed as before.

The roller, after thus being well charged with ink, is gently rolled backward and forward on the plate, so as to cover the whole image each time. One must begin slowly, and then gradually go more quickly. The image begins to come out, and we note that the more slowly we roll the more heavily and uniformly the plate is inked, whilst as we roll quickly the high lights and half tones are developed. The operator can therefore control his subject at will, according as he rolls more quickly or slowly.

A little practice will teach more than further explanation. After having used two or three plates the operator will understand exactly how to treat each subject properly.

When the plate has been sufficiently inked, the frisket is pulled down and a sheet of paper laid over the image. Pencil marks on the frisket serve as guide for the margins and centering. The rubber pad is laid on and the bed put in the press. A strong pull should be given without overdoing the pressure. Here, again, a little practice will teach best.

The iron bed is removed from the press, the sheet gently taken off, and the frisket lifted.

The inking is repeated, and operations go along in the same way until the requisite number of proofs is obtained.

Generally 25 to 40 can be pulled without stopping to re-damp. The exact number will depend on the state of the plate.

When the proofs become gray, the plate is cleaned up by pulling one or two sheets without inking. Glycerine is then poured on, and allowed to remain five or ten minutes, after which the printing is resumed.

V.—FAILURES AND REMEDIES.

Here are a few hints concerning the usual causes of failure in the printing:

1. Image comes out with a gray, mottled, granular appearance, and small white spots in parts. Insufficient pressure or grain of paper is too coarse. Try pulling more heavily until the image is even.
2. Image very hard with little half tone. Too long exposure. By inking slowly with plenty of ink tolerable proofs can be obtained; nevertheless, the printing is difficult.
3. Gray image without brilliancy. Insufficient damping or negative poor and flat.
4. Image refuses to ink up. Plate under-exposed or too damp, or roller has become affected by dampness, or ink has dried up. Run up the roller briskly on

the inking board; apply a little fresh ink if necessary; dry off the plate a little with a sheet or two of paper.

5. Whites refuse to clean up, and image becomes flat and gray. Plate becoming too dry or too much ink on roller. Pull off the ink on waste sheets and pour on the glycerine solution, spreading with the finger. Allow glycerine to remain on ten to fifteen minutes. Run the roller on a clean slab to take off some of the ink, or wash off with turps.

6. Streaks and markings. Due to not covering the image with the full width of the roller and to stoppages in rolling; also from scum from the damping solution.

7. Ink pulls off the image. Too quick rolling or roller too tacky. In the last case, clean ink roller and sponge with a saturated solution of alum. (N. B.—Don't use this sponge afterwards on the "Sinop" plate.)

When the printing is done, it is necessary to clean it, so that it can be used at any subsequent time. A plate that has been handled with care is capable of supplying a considerable number of prints; up to 300 have been taken off one plate without showing any deterioration.

The ink should be removed by pouring on the plate a quantity of turpentine sufficient for diluting the ink, spreading the turpentine all over the plate either with the finger or with a soft linen rag. When so diluted with turpentine the ink can be readily washed away with a sponge and water until no traces remain. Wash the sponge carefully after this operation.

The plate is afterwards immersed in water for one or two hours, and is then allowed to drain and dry. When the plate is dry there is no longer any trace of the image. In this state the plate will keep good for years if preserved from damp. When required for use again, the "Sinop" plate is wetted by soaking in the water and flowing glycerine on, in the same way as for a new plate.

It is recommended that the roller and inking board be cleaned up each time with turpentine after the printing is finished, otherwise the roller and ink cannot be relied upon to be in condition for the next plate.

Tidiness and cleanliness in performing the operations go a long way towards securing successful results. The instructions must also be carefully adhered to.

Awards in the Eastman Progress Competition.

The judges in this competition, Messrs. Rudolf Eickemeyer, Jr., Charles I. Berg, and Henry Troth, in making their awards referred in glowing terms to the high standard attained in the majority of the vast amount of work submitted. Technically considered, entries were of such uniform high standard that their decisions were rendered almost solely upon the artistic quality. The \$150 gold prize for contact print from Kodak negative was awarded to Mr. Eduard E. Steichen, some of whose work has been reproduced in this magazine. He also received fourth prize of \$50 in the enlargement class. Other winners of large cash prizes are: F. W. Sisson, Flagstaff, Ariz., \$150; Miss Nellie Coutant, Crawfordsville, Ind., \$100; Mrs. Nancy Ford Cones, Covington, Ky., \$100; E. Reichert, New York City, \$100; Miss Kate B. Crane, Washington, D. C., \$100; S. Stockton Hornro, Concordville, Pa., \$100; Myra A. Wiggins, Salem, Ore., \$100; Wm. S. Ritch, Union Course, N. Y., \$100. We received the report of the judges at such a late date that there is no room for a list of the two hundred prize winners in this issue. In looking over the list we recognized, with no small degree of pleasure, that the majority of the prize winners were either direct subscribers or regular correspondents to the *AMERICAN AMATEUR PHOTOGRAPHER*, and congratulate our readers on having secured so large a share of the coveted prize money.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y. During January and February to Clifton Springs, N. Y.

1541. F. E. WEEKS.—"The Country Mill" is a good photograph of an uninteresting subject, taken from probably the worst point of view, straight



on, and with the tall chimney or smoke stack in front. Except for local interest or as an example of excellent technique, it is a waste of good material.

1542. CHAS. G. HASS.—"Resting." While mounting is to a great extent a matter of taste, it is occasionally too eccentric to be taken seriously, and is apt to start a prejudice that makes it difficult to see anything good in the print that has been so treated. This is a case in point. A print $4\frac{1}{4} \times 2\frac{5}{8}$, first mounted on yellow, then on black paper with very narrow margins, and then stuck into the upper left corner of a very dark brown sheet of cardboard 14×11 inches. The little print includes some seven or eight cattle huddled together under what may be a tree, but all we see is a short vertical line as black as paper can be made, and in a position so far from the natural as to convey the idea that they had been driven to the spot and the all too short exposure made before they had time to arrange themselves according to their own fancy, which must have been something better than this. The cattle are of the Holstein variety, white and black, but, except one side of the cow in front, the black is that of under-exposure, not the transparent.

shiny effect that perfect technique would have given.

But the effort is commendable. Failure with individuality is a thousand times better than going along in the beaten track, and perseverance on lines of your own cannot fail to bring success.

1543. E. CHASTON.—"Lights and Shadows" is not a success because of three serious faults; a subject without motive or any one point of greater interest than another; the lights instead of being massed or concentrated, and to some extent at least graded, are all equally the highest of the high, and scattered all over the print, and the shadows are simply blacks without a trace of the necessary detail. An equally serious fault is the absence of any indication of atmosphere, the extreme distance, the pickets of the fence for example, is as sharp and well defined as the immediate foreground. The same exposure with $f/16$ would have enabled you to secure the necessary detail in the shadows before pushing development so as to make the lights all equally dense, and at the same time given an impression of atmosphere in the distance, but only a more careful selection of subject or point of view could have made it worth photographing.

1544. H. G. DORSEY.—"Twilight." A long oval ($4\frac{1}{2} \times 1\frac{1}{2}$) fuzzy print with the horizon line exactly in the middle and a single tree rising from the center of that, conveys, to us at least, no impression of twilight, but is sufficiently interesting to make us wish that it had been printed in a more presentable form. Ovals, as a rule, are objectionable, and an oval of this shape comes very near to the eccentric. It may show "individuality," but of a kind that considerably detracts from artistic quality. The Rocky Glen in our next.

1542. WILL. G. HELWIG.—"The Bubble." While a child blowing a soap bubble is a rather hackneyed subject, this is so good, so far above the average attempts at depicting that ever en-

tertaining amusement that we gladly reproduce it. It belongs to what is sometimes called "straight photography," but pose and expression are so fine, the values are so true and the lighting so well managed, that, taking it all in all, it is one of the best things that have come to the "Portfolio" for a long time. See page 11.

1546. E. MARKS, JR.—"A Golden Reverie On the Deep" is a marine to which "golden" is in no sense applicable. The first glance produces a most unfavorable impression caused by the unfortunate fact that the horizon line sharply cuts the print into two equal parts, one a rather fine sky, the other



a fine, or what might have been, a fine breadth of rippling water, but, alas! except for the "silvery sheen" reflected from a bright light in the sky, the whole surface consists of darks and half-darks, blacks and very dark grey, the trough of each wave being represented by the one and the crest by the other. By intensification the negative might be made to give a print conveying an impression of day, but as it is, it should be printed in bluish or greenish tints, and would then fairly well pass for a moonlit scene. Never forget that to so cut the print in two by a straight and well marked horizon line is almost always a fatal fault.

1547. DR. R. E. BROWNING.—We hardly know what to say about this portrait, and cannot even guess at what might have been your aim, and the more we study it the greater the difficulty becomes. The figure seems to be leaning on something, but the perfectly black background has swallowed up everything, including her hair. The left arm is bent so that she leans on it from the hand to the elbow; the right

arm is bent in the same way, and in the opposite direction, with the hand holding a book on which the chin rests. The arms thus repeat each other, and the repetition is accentuated by the fact that the white and gray striped dress seems to carry the eye round and round in a swirl, that will not let it rest on the really fine expression in the face. But fine as the face is, it is really a photograph of a most distracting dress, and the only way to enjoy the little picture is by covering the dress by a piece of black paper, and then the longer we look at it the better we like it. See "Answers."

1548. JOHN P. COLLINS.—"The Young Tourist." An excellent photograph made almost ludicrous by the employment of a lens of much too short focus, or rather a lens that has induced you to go much too close to the subject. Except for the apparently fearfully exaggerated size of the near pillar the photograph is as nearly perfect as you can hope to come, but for this particular subject and size your point of view should have been at least twice as distant. See page 4.

1549. F. J. PURSELL.—"The Ebb Tide on a Dull Day" would probably have impressed us more favorably if printed in sepia or other warm color, but it is difficult to consider the sand left by the receding tide as properly represented by anything so black as this is. The subject and selection are



good, but even in a "dull day" there must have been some difference in the degrees of luminosity, and some suggestion of atmosphere, none of which are in the slightest degree apparent in this.

1550. C. H. BROOKS. — "Ocean Beach," with its line of foam washed sand leading the eye to the row of buildings and pier in the distance, is a

pleasing picture with only one serious fault, the absence of any suggestion of atmosphere, the extreme distance being as clear, better defined in fact, than the immediate foreground. This is one of the subjects that tries the strength of the photographer, but, as a rule, he will find it better to make the foreground as interesting as may be, and trust to suggestion for the distance. Atmosphere in such an expanse is essential to success.

1551. J. E. WHITEHOUSE.—The unnamed print belongs to the lop-sided class that is rarely quite satisfactory.



A line drawn diagonally from the upper right to the lower left corner would cut the print in two, leaving almost all of the subject on the one and the other blank. In this case there would be on the otherwise blank half about a square half-inch of foliage and part of the nearly branchless trunk of a small tree going up and out of the print at an unstable angle with no suggestion of support. The photography, however, is good, and would have been still better if the exposure had been long enough to make the shady side of the

tree less black and the stone or rocks at its base less white.

1552. J. H. CONWELL.—Thanks for the little photograph, a direct print from the negative from which the print noticed in our November number as 1523 was printed and then cut out and made so as to lead to our belief that it was a copy. We can now congratulate you on having made one of the prettiest little pictures that have come to The Portfolio for a long time. It is well named "Innocence"; no one can look at it without loving it, nor can any one see it without recognizing the fact that a portrait may be made in an ordinary room in every respect as perfect as in the most up-to-date studio by those who know how.

1553. JOHN L. WOODYARD.—"The House Pet," a half-inch cat almost hidden in a $3\frac{3}{4} \times 2$ inch conglomeration of most unpicturesque material. It is the result of an average snapshot at a subject not worth photographing. When you want to photograph such a pretty pet see that it is placed with suitable surroundings, and watch and wait till it is in the desired position, going near enough to make it of such a size as will show that it is the principal object. If you trim this to $1\frac{1}{2} \times 1$ inch you will see what we mean, and very much improve it at the same time.

1554. C. S. TYRRELL.—"Autumn Leaves" is one of those pictures that in spite of evident faults impress us favorably at the first glance. The faults are a too limited foreground, a want of standing room, as it were, between the lower margin and the base of the trees, and an exposure so much too short as to represent the shady side of everything by unrelieved black. Even the prominent and telling poplars on the left are simply black and white. Instead of five seconds with $f/32$ and a deep yellow color filter the same exposure with $f/11$ would not have been too long. Allowing for these two serious faults, however, that is, letting the imagination supply the deficiency, we find the picture one of the most charming that has come to the "Portfolio" for a long time.

1555. W. H. STANCHFIELD.—"A Jersey at Work" belongs to the "record of fact," and is an excellent example of that valuable phase of photography. A

flat, grassy foreground largely occupied by a beautiful and beautifully photographed Jersey cow, eating; a solitary tree in the middle distance, and in the distance a suggestion of the farm building; the whole crowned by a suitable sky, form a combination suggestive of peace and plenty that none can



look at without pleasure. Amongst the mass of prints that are merely white and black from under-exposed negatives it is refreshing and encouraging to find one like this in which the values are true to nature and everything just as it should be.

1556. WALTER D. BROWN. — "A River Scene" is just as bad as its immediate predecessor was good, the one fault, or rather its cause, being gross under-exposure. The exposure is said to have been one-fifth of a second with

$f/32$, which, as the lens was one of the elements of a rectilinear, we presume was the $f/16$ of the combination, although the indication of under-exposure—the perfectly white sky and equally white water, with perfect blackness where only shadow should have been, looks more like as if the $f/32$ of the combination had been employed. It is a fine subject from an unsuitable point of view, as it is almost always a mistake to photograph a bridge straight on so as to make a horizontal line right across the center of the composition. Try again, from a point that will place the unpicturesque bridge at an angle, and expose long enough—probably two seconds under the same conditions—to give something like true values. The representation of sky and water by pure white paper is simply intolerable.

1557. P. A. HESSE. — "November" is, technically, a good photograph of an utterly unworthy subject, a corner of land jutting into a sheet of water, on which both land and trees are so vividly reflected that the definition is as good upside down as in the natural position. Such scenes look well enough, sometimes very well, in nature; but reproduced in the "record of fact" style as is this, they are, to us at least, intolerable. Before exposing on a subject of this kind the water should be "troubled" by a stone thrown in so as to convert reflections into shadows. The exposure has been about correct.

Our Table.

Books for reviews and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y. During January and February to Clifton Springs, N. Y.

THE DEVELOPER-PAMPHLETS of the well-known Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany, having been highly appreciated by all photographic circles in the United States, where these booklets had a circulation of 100,000 copies some time ago, the said firm has been induced to issue a new edition, of which we have

a copy in hand. The tastefully bound booklet bears the title: "Agfa-Handbook of the Agfa-Developers and Specialities of the Actien-Gesellschaft für Anilin-Fabrikation, and contains in 38 pages very instructive communications on the excellent Agfa-Developers: Rodinal, Eikonogen, Amidol, Imogen, as well as on Agfa-Intensifier and Agfa-

Reducer. An abundance of well-proven formulae and hints in connection with opinions of prominent photographers, etc., make this handbook very valuable for consumers of Agfa manufactures and for those who intend to become such. We strongly advise all interested to procure a copy, which is to be had for the asking.

* * *

THE EUREKA FOCUSING CLOTH, manufactured by F. E. Cable, Jamesville, N. Y., as shown in the illustration, is a well-made article of a perfectly opaque fabric designed to do away with the usually cumbersome focusing cloth. Who has not had his patience exhausted in trying to obtain a focus on a stormy day? The Eureka cloth is read-



ily attached to any camera, will not blow away, excludes more light and leaves both hands free. Not to mention its many advantages, the price is no more than the cost of the usual rubber cloth, and those of our readers who invest, especially the gentler sex, will thank us for bringing it to their attention.

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PHOTOGRAMS OF THE YEAR 1902. Published for The Photogram, Ltd., by Dawbarn & Ward, Farringdon avenue, London. For eight successive years we have welcomed this most interesting annual more heartily perhaps than anything that comes to our table; mainly because it, better than anything else, reflects the progress of pictorial photography in all its phases and in all over the world. Nor is that its only mission, or, to most readers, its most important feature. It is a teacher both by example and precept, reproducing, according to its editors, "pictures which will illustrate some phase or tendency, good or bad, in the photographic work of the day," and at considerable

length and evidently with ability and perfect honesty, tell of the merits and demerits of its examples in a way that must be extremely helpful to all who aim at picture making by photography.

In its plan *Photograms of the Year 1902* follows that of its predecessor. Robert Demachy tells of photography in France; Josiah Martin deals with New Zealand; Ernst Juhl with Germany, and A. J. Hill Griffiths with Australia, while the editors, we presume, are responsible for the excellent and almost exhaustive showings of the position of the art in more than one of its phases in the United States and Great Britain.

Alfred Stieglitz tells of the formation of the "Photo-secession" and its satisfactory first exhibition, and has our sympathy and best wishes in his evident desire to see it a friendly rival of the Linked Ring; and we cannot say too much in favor of H. Snowden Ward's very helpful "Suggestions for Would-be Picture Makers."

Last, but not by any means least, are A. C. R. Carter's criticisms on the two great London exhibitions, that of the Royal Photographic Society and of the Linked Ring, or Salon; and although, from the way in which the book is produced, it has, as in previous volumes, been impossible to generally place picture and criticism together, the index is so arranged that the position of any desired picture or its criticism may be found in a moment.

The 192 pages contain over 150 half-tone engravings of fairly representative pictures, many, very many, of which, such as Moffat's "John McWhirter"; Cochran's "The Sculptor," or Fischer's "Minuet," can be admired and understood by everybody; while a few, such as Lagnarde's "A Portrait," Müller's "Elegie," and Steichen's "Languid Repose," and, we may add, the amputating of so much of the head of Eickemeyer's otherwise beautiful "Portrait," are a puzzle, and require for their appreciation a degree of artistic culture far beyond what we possess.

But we have said enough to show that in our opinion *Photograms of the Year 1902* will be found a friend indeed to all who aim at picture making by photography.

TEST PAPER FOR THE WYNNE EXPOSURE METER.—We have received from

Mr. Wenzel, the American agent for the "Infallible Exposure Meter," a disc of test paper fifteen months old, and on subjecting it to practical use find it simply perfect. We have also a letter from Geo. O. Seward, resident chemist at the Wilson Aluminium Works, Holcomb Rock, Va., in which he says that from a sceptic in regard to exposure meters he has been converted to such confidence in the "Infallible" that he would not be without it for the price of a gross of plates. On a recent outing he exposed two dozen plates, giving in every case the exposure indicated by the meter, and although they varied from 1-30 of a second to 25 minutes, development showed that they were all correct, not a single negative needing doctoring.

* * *

MORE LIGHT IN NEGATIVE MAKING.
By Professor D. J. Cook, Instructor in Negative Making in the Illinois College of Photography. This is said to be "the first book," although it consists of only thirty-eight 5x8 pages, and very wide margins at that, of a work with the above title, intended to be "A practical treatise upon negative notions; the knowledge of which will enable the student to rank with the better workers of the times."

In the "Foreword" the author says: "In writing 'More Light in Negative Making,' I do not assume to tell the practitioner something he does not know, nor to state anything new, but rather it is my pleasure to explain and make clear the principles he does not understand; to mention and emphasize many of the things he seldom heeds."

When we say that the four parts into which the thirty-eight pages of 3x5½ inch type is divided brings us up to the finished dry plate, and tells something of the nature and properties of almost all that goes to its making, including even the manufacture of the glass itself, it will be evident that the information is of the briefest. But, so far as it goes, it is generally correct, although the author is a little hazy in relation to dates, and inclined to give credit to whom it hardly belongs. He tells us, for instance, that the action of light on silver salts was first noted by Scheele in 1877, and that the absorbing power of dyes was discovered in 1840. That "in 1839 Daguerre gave us the first practical process of

photography," while it has been again and again shown beyond cavil that Talbot was before him with a process that is, with slight modification, the process of to-day, while the Daguerreotype is hardly known even by name to a great majority of the devotees of the camera. To Kennett also he gives the honor of introducing the gelatino-bromide plate, while only about a year ago the Royal Photographic Society gave to the late Dr. R. L. Maddox the "Progress Medal" as being the real author of that now universally employed article.

Then, he tells us that the glass used by plate makers is "patent plate," a statement that has not been true since the days of wet collodion, and even then "flatted crown" was much more in evidence, while it will be news to most photographers that "there is a constant demand by some of the small manufacturers for old and discarded negatives," for the purpose of cleaning off and recoating. And again, in treating of halation, he mentions amongst the things that may be used to prevent it black felt or black paper in contact with the plate, a notion exploded long, long ago.

But the mention of such trifling errors amongst such a lot of interesting information should not detract from the value of the book, nor would we have noticed them but for the fact that such books help to make history, and perverted history is worse than none.

From the prospectus we see that there are to be five such books, fifty cents each, or two dollars for the lot. The second will appear in January, 1903.

* * *

We are in receipt of a number of excellent prints on Vinco paper from Mr. John Carbutt, one of which, a photograph of red, pink and pink-white peonies, is reproduced on page 16 of this issue. Several of the pictures are on Vinco Gravura, a new paper which retains a beautiful gros-grain effect on its surface when dry, similar to the effect produced by passing a print under the embossing rollers of a Dorticus finisher. The effect is more regular and better, however, than if produced by mechanical means and is admirably adapted for portraiture or large work in which there are heavy shadows. In the Gravura prints these shadows are brightened up and the whole effect is

soft and pleasing. The most noteworthy feature about the prints is the correct rendering of the color values. The negatives are made on Mr. Carbutt's new polychromatic plates, without any intermediary color screen. Mr. Carbutt, after long experiment, at last feels satisfied that he has produced a plate which will render color values in correct monochrome. Judging from the results before us and the tests we have seen made under the Chapman Jones plate tester, the polychromatic plate is a new power in the hands of the photographer and a distinct advance in photographic. We recommend it to those who aim at perfection in their work.

* * *

THE BRITISH JOURNAL ALMANAC, which might well be called the family bible of the photographer, makes its appearance for 1903 in its usual form. Of the 1,580 pages all told, 1,000 are filled with advertisements and the remainder contains the regular quota of formulæ, tables and lists of photographic societies, with many valuable and up-to-date articles and a review of the progress of the year. The leading article, "Chapters on Photo-Micrography," is a lengthy and thorough treatise on this interesting phase of photography, which is alone worth more than the price of the volume. J. T. Hackett writes on "How to develop Prints on Partly Printed Gelatino-Chloride Papers;" Mr. W. H. Walmsley on "Drying the Negative," but lack of space constrains us and we can only say that those who desire to procure a copy must order early to avoid disappointment. Our publishers will be pleased to fill any orders received.

* * *

THERE seems to be no end to the number of devices which are invented to make the work of the photographer easy. The best we have seen, however, since the advent of the Kodak developing machine, is an automatic focusing enlarging camera. This, we are told, will be put upon the market in several sizes at a low price complete with lens and holder. The working model which was shown us seemed perfect in its arrangements. A negative is inserted at one end and a sheet of bromide paper or a plate inserted in the holder (of course, in a dark room) and placed at the other end. All that

is then necessary is to turn a handle until the size of enlargement desired is reached on the scale, point the camera towards the source of light and open the lens. Turning the handle operates a differential screw, which is cut with mathematical accuracy, so that the sensitive surface is always in correct focus. The Automatic Focusing Camera Co. has been organized, with a factory in Jersey City, and are now ready to supply the market.

* * *

THE ARISTO EAGLE grows in stature and vigor with each succeeding year, as will be seen from our back cover. "Emblem of permanency" (why not liberty?), the Aristo eagle has been recognized for fourteen years as the brand of perfection on photographic papers. The steady growth of the Jamestown factory and the cordial relations which exist between the manufacturers and their millions of customers impresses us with the fact that the eagle will not die of starvation or atrophy for many years to come.

* * *

THE Folmer & Schwing Co., manufacturers of the well known Graphic and Graphlex cameras and other accessories, have leased more commodious premises at No. 407 Broome street, New York. Their salesroom, office and factory will now be under one roof and they will be better able to meet the demands of their customers.

* * *

THE Helios Photo Paper Co. are meeting with deserved success in the sale of their platinotype and parchment papers. These papers are capable of yielding most beautiful and permanent results and it should be noted that they also make a specialty of coating special papers to order. Several new things will shortly be brought out by this concern, the first of which is Platinotype postal cards. These should become very popular as there will be no tendency to curl and very pretty effects can be obtained by brush development.

* * *

PHOTOGRAM CARDS.—From the editors of the *Photogram*, Effingham House, Arundell street, Strand, London, come a set of "Photogram Cards" which every photographer might with advantage carry in his vest pocket. There are seven in all, each $4\frac{3}{4} \times 3\frac{3}{4}$.

printed on both sides, and giving a vast deal of useful information, including "A guide to correct exposure," "Table of enlargement and reduction," "Telephoto rules," "Direction and chart for finding the time of best lighting of any view," "Thermometer scale and photographic temperatures," "Weights and Measures—British and metric," and "How to view stereoscopic slides without a stereoscope." And all this for the asking, accompanied by two cents for postage; surely the nearest to something—and a really useful something for nothing that we have ever come across.

* * *

We have to thank the S. S. McClure Company for a copy of a "COMPLETE INDEX to McCURE'S MAGAZINE for Volume i. to xviii., inclusive, a pamphlet of twenty-nine closely printed pages that will be found simply invaluable to those who possess the "back numbers" that make up those interesting volumes. Time was when those who "took" a magazine had it carefully bound at the end of each year, but in these days, when they are both many and cheap, few are content with one and the binding of all would be a serious business.

With piles of numbers lying on one's shelves the finding of any particular article is like the proverbial finding of a needle in a bundle of straw, and this "Index" excellently fills what must have been a long felt want.

* * *

MAHOMET AND THE MOUNTAIN.—The Bausch & Lomb Optical Company send a booklet of sixteen pages, telling about their Hand Camera Telephoto lens, and how a sceptic became transformed into an enthusiastic believer, and telling it in a way that it only needs to be read and its illustrations examined to induce every reader to follow the good example.

If Mahomet had lived until to-day there would have been no need for him to go to the mountain, as this telephoto in conjunction with his ordinary lens, especially if it was a fairly good one, and his ordinary hand camera would have brought it to him; and, even with $f/11$, by a short shutter exposure on a suitably bright day.

We have frequently had occasion to speak of the exquisite beauty and perfection of the work turned out by

Bausch & Lomb, and of the rapidity with which the factory has risen from a comparatively small beginning to one of the largest of its kind in the world, and the reason is not far to seek. Every part of every instrument that bears its trade-mark is produced under its roof and a supervision that enables them to guarantee its perfection.

The little book with its interesting story, which we understand was written by Mr. W. P. Hopkins, convincing illustrations, and price list is to be got for the asking and should be read by every lover of photography who is willing to give ten dollars in exchange for a power hitherto undreamt of.

* * *

MANY of the troubles which beset the photographer can be traced to the use of impure water. Not alone his chemical troubles, but often his bodily ailments as well. Pure water is as necessary to good work as it is to good health and the supply from the mains in our large cities or from the wells in smaller towns cannot always be used with safety without filtration. There are filters and filters. Some do the work under protest and some make a pretense and remove the coarser particles of earthy and vegetable matter. At the Buffalo Convention there was exhibited by Mr. W. P. Buchanan the Maignen filter, which not only clarifies the water, but removes all bacteria, organic matter and metallic poisons. Happening into a gallery where one was giving the best satisfaction recalled to mind the tests we had seen made at the convention, and we bring it to the notice of those of our readers who may be interested. The Maignen filter is inexpensive, automatic and constant in its action, easily cleaned and portable. Mr. W. P. Buchanan, Philadelphia, Pa., will be pleased to send an illustrated list on application.

* * *

WHILE we modestly refrain from printing the complimentary letters we are constantly receiving from our subscribers, we will say here that although it gives us great pleasure to learn that our efforts are appreciated, it would be more to our mutual benefit if the writers would mention this magazine in as glowing terms to their photographic friends. A little missionary work along this line would be labor well spent on the part of our readers.

CAMERA WORK. Just as we are about to go to press the first number of this new candidate for public favor, or rather for the favor of a certain class of the public, comes to our Table, and although we have time for only a glance through it, we have seen enough to warrant us in saying that it makes an excellent beginning.

* * *

Those who watched the rapid rise of *Camera Notes* to probably the most

highly appreciated photographic magazine in the world, will have no doubt as to the success of *Camera Work*, in which its editor and publisher, Mr. Stieglitz, will have an absolutely free hand, and especially when they see the able band of contributors that he has gathered round his standard.

We shall have a good deal more to say about what we consider likely to be the mainspring of pictorial photography in America in our next.

Society News.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Tioga Centre, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest to our readers.

The Camera Club of New York.

The regular Monthly meeting of the club was held on Tuesday evening, December 9, at the rooms, No. 3 West Twenty-ninth street, and President Crosby presided.

After the usual reports had been received a discussion ensued regarding a proposed pay exhibition of lantern slides by members similar to one given a few years ago at the Knickerbocker Club Theater and the matter was favorably regarded. President Crosby was authorized to appoint a committee to consider the idea and to report at a future meeting.

The print exhibition on the wall is composed of prints contributed by the members to the landscape print competition, for which a silver cup is offered as a prize for the best picture. It was announced that the judges, R. W. Van Boskorck, J. M. Forbes, and E. J. Steichen, had awarded the cup prize to Mr. Rudolph Eickmeyer for an eight by ten picture representing a view looking out to sea from the shore, with a rising, lazy sun in the distance near the horizon line. Just a bit of shore with rolling surf composes the foreground. "See our frontispiece." It is a very naturalistic picture and one that appeals to the artistic sensibilities of the observer. Special honorable mention was given to a night picture overlooking the city, having in the background the lights of the Brooklyn Bridge, by Mr. Strauss.

It appeared to be a carbon print and was very effective in color and tone.

Others receiving honorable mention were Mr. A. W. Scott for a small four by five wood landscape.

Mr. H. Coutant, for a marine view printed in white, representing yachts at anchor.

There was exhibited a special automatic printing frame by Mr. Harper. A strip of velox or bromide paper is placed under a negative, a slide drawn every few seconds to correspond with periods on a special clock adjoining the frame. The strip is then developed and the section showing the best results is selected. Then it is only necessary to make the exposure for that particular negative to correspond with the given period timed by the clock to obtain duplicate correct exposures and uniform results.

On Thursday evening, December 11, Mr. Gilbert R. Hawes, a member of the club, gave an informal illustrated lecture entitled "From Niagara to the Sea," and enlivened it by relating many humorous incidents that happened during the trip. He made the journey in 1901, going from Niagara to Halifax, returning via Newfoundland and Maine to New York.

An exhibition of children's photographs by E. B. Core, was given from December 17 to December 31. Some of them were very well rendered.

On the evening of December 30 Mr.

Herbert L. Bridgeman, secretary of the Peary Arctic Club, gave an entertaining and instructive lecture illustrated by slides of "Peary's Progress to the Pole."

Brooklyn Camera Club,

The annual exhibition of this club has been set for the 5th, 6th and 7th of February, 1903, and will be open to all amateur photographers, subject to the following rules:

1st—Each competitor must exhibit not less than three pictures.

2nd—All pictures must be delivered, charges prepaid, at the club rooms not later than January the 20th, and in case pictures are to be returned by mail or express, sufficient money to cover charges for packing and shipping same must be forwarded to the Print Committee with the pictures.

3d—The full name and address of the exhibitor must be on the back of each picture. Nothing but the title of the picture and the signature of the maker must be allowed on the front.

4th—There will be nine classes, as follows: A, Landscape; B, Marine; C, Portrait; D, Genre; E, Life Studies; F, Animal Studies; G, Still Life; H, Architectural; I, Miscellaneous.

5th—Pictures will be judged by a committee of competent judges and a first, second and third award made in each class. Each first award will score five points; each second award will score three points, and each third award will score one point respectively to the maker of the picture receiving the award, and the club medals in gold, silver and bronze will be presented to the persons having the three highest number of points.

6th—There must be at least ten pictures contributed by three or more persons in order to constitute a class. If these requirements are not fulfilled the class will be dropped and all pictures intended for same will be hung where most suitable.

The committee request that all pictures be either framed or mounted under glass, and also would like to hear from you by the first of January how many pictures you intend to exhibit, in order that proper arrangements can be made for exhibiting them to the best advantage.

Our Prize Lantern Slide Set.

THE AMERICAN AMATEUR PHOTOGRAPHER prize set of slides, which has been circulating so long in the West, is now in the Eastern states, and will be convenient for residents in this section to use. The set of slides is sent gratis to subscribers and others, the only conditions being that express charges, one way, shall be paid. Applications will be booked by F. C. Beach, editor, 361 Broadway, N. Y.

The American Photographers Club.

The first regular meeting of this club, after the organization in November, was held at No. 6 Park Place on the evening of December 4. An interesting demonstration of Helios parchment development paper was given, and four additional members were admitted. The outlook for a strong and useful club is promising.

The promoters of this organization believe there must be among the many thousands of amateur photographers in this great city some hundreds who would be glad to join a club of this kind, where the best opportunities and facilities will be afforded for the study and practice of photography, provided these advantages can be enjoyed for a reasonable and moderate outlay. The Camera Club of New York—a splendid body of photographers whose accomplishments in the beautiful art this club may admire and try to emulate, but can hardly hope to equal—occupies a special and somewhat exclusive field; in fact, the Camera Club persimmons hang so high on the photographic tree as to be rather beyond the reach of the average amateur who has no bank account at his command. The Amateurs' Club, while not barring out the wealthy photographer, opens its doors to that large class who would be quite willing to pay club dues of fifty cents a month, but who cannot well afford twenty dollars a year and a fifteen dollar entrance fee. The Photographers' League Camera Club, out of which this Amateurs' Club grows, was embarrassed by lack of funds with which to properly equip its rooms, the dues being merely nominal and wholly inadequate as a source of revenue. The annual dues in the new club are six dollars for resident members, three dollars for non-resident members. These

small sums any user of the camera can well afford to pay when the benefits are considered: use of dark room, stereopticon, enlarging and portrait cameras, and other apparatus that will be provided; while greater economy in the purchase of supplies may largely or wholly offset this cost of membership.

Amateurs who have the ambition to be something more than mere button pushers will not be content to plod along alone and in the dark when, by getting into a live camera club, a hundred willing hands will help them forward and the best photographic lights shine to show the way.

The next meeting of this club will be held at the house of Dr. Louis C. Le Roy, No. 6 Lexington avenue, on Tuesday evening, January 13, at 8 o'clock. Photographers who wish to join a progressive club should communicate with the secretary, Mr. J. J. Devantery, 192 Cornelia street, Brooklyn, or present themselves at the meeting.

First Minneapolis Photographic Salon.

The Minneapolis Society of Fine Arts, in co-operation with the Minneapolis Camera Club, has the honor to announce that the first Minneapolis Photographic Salon will be held in the Art Gallery of the Public Library Building, in the City of Minneapolis, Minn., from February 4th to February 15th, 1903.

Exhibitors at the Chicago Salon, closing about January 4, will be invited to send their work to the Minneapolis Salon, and together with local and other exhibits, a most successful Salon is anticipated.

The Jury of Selection will consist of Mr. Robert Koehler and Mr. Alexis J. Fournier, of the Society of Fine Arts, and Mr. H. E. Murdock, president of the Camera Club.

No charge will be made to exhibitors and no awards are offered, but the acceptance of work by the Jury of Selection will be an honor of no small degree when its personnel is considered.

A pamphlet containing full particulars and rules for exhibitors, together with entry blanks, may be had by addressing Mr. C. F. Potter, Jr., 13 South Seventh street, Minneapolis, Minn., of the Committee on Publicity.

The American Lantern Slide Interchange.

The annual meeting for the testing of slides by the Board of Managers occurred on the nights of December 4th and 5th, at 361 Broadway. The members present were W. H. Cheney, Herbert F. Smith of Syracuse, John P. Zenner of Buffalo, and F. C. Beach of New York. Mr. Rau of Philadelphia was unable to attend. There were slightly over 2,600 slides submitted for testing by thirty-two clubs, and 1,285 slides were accepted to be arranged into sets of about 100 each for circulation. One club was thrown out because not enough slides submitted were of good quality to admit. Five new clubs were admitted. The Rochester (N. Y.) Club, Photo Section of Hartford Scientific Society, Brockton (Mass.) Camera Club, Portland (Me.) Camera Club, and Hamilton (Canada) Camera Club.

The Board this year employed a lantern expert, Mr. Charles I. Newton, to operate the electric lantern and a stenographer to take notes of the comments of the Board on each slide of a few clubs. The pictures were projected on a white wall about eight feet square, which enabled the members of the Board to quickly determine the quality of each slide.

The clubs dropping out of the Interchange are the Albany Camera Club, the San Diego Camera Club, the Seattle Camera Club, and the Y. M. C. A. Brooklyn Central Camera Club.

It is expected during the season of 1903 thirteen different sets of slides will be in circulation. Interest in the Interchange continues and its work in providing creditable sets of slides is appreciated. Clubs interested in joining may secure particulars by communicating with F. C. Beach, general manager, 361 Broadway, N. Y.

The Chicago 1903 Salon.

We are advised by a visitor that the Chicago Salon of this year, which opened January 1 in the Art Institute, under the auspices of the Chicago Society of Amateur Photographers, contains many examples of pictorial photography of real merit. We hope to be able to give a review of the salon for the benefit of our readers in our next issue.

Lantern Slide Competition.

We have had so much favorable comment on our old prize set of lantern slides from subscribers and others that it is our intention to inaugurate a new competition in which we invite all our readers to participate. Our old set, which is at this moment in Nashua, N. H., has done yeoman service. It has traveled into every State in the Union, through Canada, through Europe, and has given pleasure to thousands. The prize set is at the disposal of any reader of this magazine who will pay express charges one way and agree not to keep the slides over one week. It is the general desire to obtain a new set. Many new workers have entered the field and we trust that they will give early and generous response to the call, keeping in mind that the standard of acceptance is high and observing the following rules:

1. All slides must be $3\frac{1}{4} \times 4$ inches and must be bound and matted in the regular way, with the title label on the right hand end of the slide when looking at the picture in its natural position and the thumb label on the lower left hand corner.
2. Slides receiving awards will become the property of the AMERICAN AMATEUR PHOTOGRAPHER. All others will be returned to the senders at their expense.
3. The original negative as well as the slide must be the work of the competitor.
4. No competitor can take more than one prize in any one class.
5. No entry form is required, but a list should be sent with each set and declaration made thereon that the negative and slide is the sole work of the competitor. A short description

should also be given of any specially interesting or historical subject for use when the slides are being exhibited.

6. There will be six classes. Entry may be made for one or all, but each competitor must send six slides for each class in which he competes.

CLASSES.

- I. Genre and Figure Studies (studio work debarred).
- II. Landscape (with or without figures).
- III. Instantaneous Work (objects in motion).
- IV. Architecture (interior and exterior).
- V. Botanical subjects and flower studies.
- VI. Marines and cloud effects.

PRIZES IN EACH CLASS.

First Prize—Silver Medal.

Second Prize—Bronze Medal.

Third Prize—Certificate of Merit.

Any or all prizes may be withheld at the discretion of the Board of Judges if the entries are not of sufficient merit.

The judging will be done on the screen with the electric light by a competent Board of Judges, to be announced later and their decisions will be published in the succeeding number of the AMERICAN AMATEUR PHOTOGRAPHER. Successful competitors shall have the privilege of first use of the slides in the order in which their entries are received, unsuccessful competitors next in the same order, after which the accepted set will be open for applications from the public.

All entries must be sent prepaid to the office of the AMERICAN AMATEUR PHOTOGRAPHER, 361 Broadway, by April 15th, 1903.

Answers to Correspondents.

GEORGE H. KRETZ.—We have often said that, as a rule, the professional photographer knows less about the lens than anything else connected with photography, and the professional you mention, notwithstanding his twenty years experience, is no exception. The speed of a lens depends on the relation of its working aperture to its focal length, and one lens is quicker than another only because of its larger aperture in that relation. A rectilinear with

an aperture of $f/8$ is four times faster than, say, a single lens, the largest aperture of which is $f/16$; but if the former is stopt down to that aperture the speed of both will be the same.

There is really no such thing as "depth of focus," but we cannot in this column spare room to explain the laws relating to what is generally understood by the term. We shall in the near future devote an article to the subject, and meantime refer you to

Brown's "The Lens," noticed in "Our Table" in the December number, where you will find the difficulty cleared up.

We do not agree with you in thinking well of the marking of the stops with only half of the U. S. system—the numbers without the f values. The most important feature of a lens is its focal length, and the most important feature of a stop is its relation to that, or its f value. "No. 4" conveys no information to those who have not committed to memory the relation of that number to $f/8$, while $f/8$, and all the other f values, speak for themselves. "The great body of amateurs" have not the slightest idea of what the numbers mean, nor will they ever take the trouble to learn. The Royal Photographic Society, through whose influence the uniform system was introduced, have abandoned it for the simple f values, each succeeding stop being just half the area of its predecessor, requiring just twice the exposure. Mere numbers are arbitrary, f values are universal and self-explanatory.

DR. E. E. BROWNING.—Thanks for information regarding the print 1516. We should have waited till the clouds took a less mechanical arrangement. The too dark blue of the sky shows that for the plate employed the color screen was too deep. A few shades lighter would have given truer values. The finest rendering of white clouds on a blue sky that we have ever made was by the employment of a greenish-yellow screen made for us by Mr. Carbutt.

VESPER.—The article to which you refer told only half a truth, which is sometimes worse than a lie. It is true that a wide angle lens gives a perfectly correct perspective under right conditions. If two negatives are made of the same subject from the same standpoint, on, say, a 5x4 plate, the one lens having a focus of, say, 5 inches, the other 8 inches, the negative from the shorter lens will include much more than that from the longer. If, however, you cut out from the image of the shorter lens just what was included by the longer and enlarge it up to the 4x5 the two will be exactly alike. But the cut out parts, under ordinary circumstances, give the impression of false perspective, exaggerating near and by comparison diminishing distant objects,

both of which are still more exaggerated by the short focus lens leading to a much too near viewpoint.

The only possible way to make good work with a wide angle lens, meaning thereby one with a focus not longer than the base line of the picture, and many of them are shorter, is to go far enough from the subject to include all that is wanted in a base line of not more than two-thirds the focus, and then enlarge that to the full size; but surely it is easier to employ a long enough lens at once.

L. BURNS.—You cannot focus the print you want to copy to same size because your camera has not a long enough draw. To copy anything the size of itself the plate and object must each be distant for the focal center, say the diaphragm slot, twice the focus of the lens; with your $6\frac{1}{4}$ inch lens, 12½ inches. If you are not very particular, you may shorten your lens sufficiently by placing one of the so-called copying lenses in front; but a better result would be obtained by a temporary addition to the length of the camera.

J. B. MCFADDEN.—Articles on lantern slide making will be found in many of our back numbers, but we are too far from home to specify them. Next perhaps in value to those of our own are the instructions in Osborne I. Yellott's book, "Lantern Slides and Slide Making," published by the editor of *The Photo-American*. In a word, however, the secret of perfect slide making lies in the exposure, which must be made to suit the developer, and, with a backed plate, the more near to the absolutely correct the more nearly will the slide reach perfection.

D. L. HESSE.—Your friend, notwithstanding his six years experience, is mistaken; it is very easy to under-expose a snow scene, and our recommendation to expose for the shadows applies to them quite as much as to views, at any other season. A snow scene in which a large breadth of snow is represented by white paper is worthless, hence such should be photographed only when the sun is low and the exposure must be such as to admit of the necessary detail being developed before the faint shadows cast by the irregularities of surface are developed to opacity.



"NATURE
IN ITS ROBE
OF WHITE."

R. S. KAUFMAN.
Hon. mention Landscape Class
Wyoming Valley Camera Club Exhibition.

THE
AMERICAN AMATEUR PHOTOGRAPHER.

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NO. 2.

The Combined Bath Again.



HAVING so long against all comers—and they have neither been few nor without authority—advocated the employment of a combined fixing and toning bath, we are naturally glad to welcome to our side of the question such universally accepted authorities as the Messrs. Lumière and Seyewetz.

In a paper read before the Royal Photographic Society, London, they record a long series of what may be called exhaustive experiments, under the title, "The fading of positive photographic prints printed on chlorocitrate of silver paper, toned and fixed in one operation," and the conclusion they come to as the result is:

1st. That the principal cause of fading of chlorocitrate of silver prints is the presence of hyposulphite of soda incompletely eliminated, but the fading of the image only takes place in the presence of moisture.

2d. Fading takes place in gold-toned images containing hyposulphite of soda, even if the toning occur in a neuter medium as in the case where toning and fixing are separate operations.

3d. The absence of all trace of hyposulphite of soda in the print is a guarantee of its keeping in humid air even if the image does not contain gold, and if it be constituted by either sulphide of silver, silver only, or silver and lead.



Chicago Salon.

Annie W. Brigman.

"RACHEL."

The yellowish appearance of faded prints does not therefore appear to be due to the presence of sulphide of silver or lead, but perhaps to that of very finely divided sulphur resulting from the slow decomposition of the soda hyposulphite.

The supposed drawbacks of combined toning and fixing solutions do not therefore appear to us to be well founded.

Our experiments have, in fact, shown that prints toned and fixed separately fade just as readily as those toned and fixed at a single operation if they have been incompletely washed and exposed to damp air. The way to avoid fading of toned prints is therefore to completely eliminate the hyposulphite of soda.

Before reaching this conclusion the authors of the paper first prepared three separate baths of the "fixing and toning" variety; one as recom-

mended by the brothers Lumière as the outcome of previous researches, consisting of hypo, alum, lead and gold, dissolved in boiling water; a second of the same composition, but dissolved in the cold, and a third of hypo and gold only; just such as we have long employed and recommended.

Prints fixed and toned—we place the actions in that order, Mr. Bothamley having shown that fixing precedes toning—in these solutions were thoroughly washed so as to eliminate every trace of hypo, and dried. They were then exposed to the action of light as prints usually are, but protected from bad weather; not mounted but fastened by the four corners to a plate of glass and covered by another plate as a protection from dust and dirt. Each had half its surface covered by black paper, the better to show any deterioration that might take place; and all were exposed, often to hot suns, for a whole year, from July, 1901,

to July, 1902. None of the prints, so far as the image was concerned, underwent any perceptible change, although the paper that was slightly violet tinted, gradually whitened under the action of light.

Other baths were made, some in which the lead was displaced by other metals, such as tin and bismuth, some in which the gold was omitted, some that were rendered acid by mineral, organic, and pentathionic acids; and others in which the toning was by sulphuretted hydrogen and in alkaline sulphide; and prints toned in all, and for the same time exposed in the same way, remained equally free from any appearance of fading.

If Lumière and Seyewetz are right, then, and we believe there need be no doubt as to that, the bogey of "sulphur toning" may be dismissed as so many others have been, and whether the beautiful and easily secured tones of the combined bath be of sulphur or gold, so long as the prints are perfectly freed from hypo and kept from anything more than the usual atmospheric moisture, they may be relied on as being as permanent as any silver print can be expected to be.

Still there is and probably always will be a prejudice against sulphur and in favor of gold, and our oft given advice still stands—to ascertain the quantity of gold required to tone each sheet of paper or number of



Chicago Salon.

"AUTUMN."

Theodore Eitel.

prints of a given size, and to discard the bath as soon as it has approximately toned that quantity.

The combined bath recommended by Lumière is as follows :

Sodium hyposulphite.....	250	gram.
Alum.....	16	gram.
Lead acetate.....	2	gram.
Gold chloride.....	0.6	gram.
Water.....	1	litre.

Dissolve the gold in a few cubic centimetres of the water, the other ingredients in the rest, and add the former to the latter solution.

The bath that we have long employed and so often recommended, may be as follows :

Sodium hyposulphite.....	3	ounces.
Solution of gold (1 grain to the drachm).....	4	drachms.
Water.....	16	ounces.

Dissolve the hypo in the water and add the solution of gold.

Prints, over printed to the usual extent, may be placed in such a bath direct from the printing frame and toned to any desired shade up to a deep purple brown or darker, depending largely, of course, on the density of the negative and depth of printing. With most samples of paper the print first assumes a pale sickly yellow, then begins to turn darker and darker, finally reaching the darkest and richest that the amount of reduced silver will admit of, that depending, as we have already said, on the depth of printing of which the negative will admit, after which, if it is allowed to remain in the bath, it will enter the slaty blue stage, becoming weak and "mealy."

Once more we say to those who still employ printing out silver paper, try the combined bath. Properly made and properly used it will give, with less trouble and more certainty, finer tones than you can get in separate solutions, and without any tendency to double toning or any of the many faults found with separate toning and fixing.

Experienced photographers do not need to be told how to make a simple and reliable test for the presence of hypo, nor is such test necessary when plenty of running water is obtainable or the prints are kept moving in frequent changes of water. As, however, prolonged soaking is injurious to prints, we repeat the iodide of starch test for the benefit of those who may not be aware of it. Having boiled a little starch in distilled water, add to it a few drops of tincture of iodine, which will turn the solution into an intensely blue color. Now catch some drippings from the prints and to it add a few drops of the blue starch solution. If the blue color remains it proves the absence of the fixing salt, but if the color is discharged, it indicates the presence of hyposulphite in the water.

Special Subject Series.—II.

Development.

BY DR. JOHN NICOL.



THE sensitive substance of the modern dry plate or film consists essentially of silver bromide embedded in gelatine, but just how the light, during the necessary exposure, produces the latent image is still a matter of speculation. By some it is supposed to be what may be called mechanical, a change in the rate of motion of the molecules of the light acted on haloid, and by others a chemical action, the liberation of half of the bromine, converting silver bromide, Ag Br , into silver sub-bromide $\text{Ag}_2 \text{Br}$.

The latter will answer my present purpose as well, probably better than any other theory; premising that Ag Br is sufficiently stable to resist the action of the developer, while $\text{Ag}_2 \text{Br}$ is by it decomposed, the bromine uniting with something in the developer for which it has greater affinity, the silver, in its metallic state, being left in situ.

A developing solution consists essentially of a reducer, say, pyrogallol, an alkali and water; but to somewhat control the greed of the pyrogallol for oxygen and for several other reasons, sodium sulphite or other sulphurous acid derivative is generally added.

Taking, however, the simplest formula: pyrogallol, sodium carbonate, and water, the following may be accepted as a fairly correct record of the progressive steps in development.

Pyrogallol cares nothing for either silver or bromine and therefore is not in the true sense a developer, but it cares very much for oxygen, so much that it immediately begins to decompose some of the water, setting free two atoms of hydrogen for each atom of oxygen that it takes to itself. This hydrogen, in its nascent state, the state in which it is at the moment of its liberation from the oxygen, has an affinity for bromine sufficiently strong to decompose the light produced sub-bromide, combining with the Br and setting the Ag_2 free in the form of metallic silver embedded in the gelatine.

But the union of hydrogen and bromine results in the formation of hydrobromic acid, with sufficient restraining power to almost, if not alto-

gether, prevent further action of the pyrogallol, hence the use of an acid as a preservative; and it is here that the alkali gets in its work. The sodium of the sodium carbonate at once enters into union with the hydrobromic acid forming sodium bromide; a retarder it is true, hence the slower action of developing solutions after being once or twice used, but as nothing compared with the retarding power of acid. Thus the three steps or actions go round as in a circle. The pyrogallol decomposes the water liberating hydrogen; the hydrogen, while in the nascent state decomposes the silver sub-bromide, leaving the metallic silver in the form of an image in the gelatine film, and forming hydrobromic acid, which, in its turn, is immediately neutralized by the alkali in the formation of sodium bromide.

Such is what is sometimes called straight or normal development, and with the following, what may be called, a typical formula, will give in a given time—depending on the temperature—on a correctly exposed plate, a perfectly developed image:

Pyrogallol.....	3 grains.
Sodium sulphite.....	12 grains.
Sodium carbonate.....	15 grains.
Water.....	1 ounce.

Various so-called developers, but in reality reducers, vary somewhat in their action; and while some believe that the exposure alone fixes the



Chicago Salon.

"WASTE LAND."

H. Hendrickson.

technical quality of the resulting negative, there are others—and probably they are largely in the majority, who believe that by varying the proportions of the various ingredients, and especially by the addition of varying quantities of a restrainer, generally potassium bromide, they can



Chicago Salon.

"WINTER LANDSCAPE."

Ralph E. Berger.

not only compensate, to a large extent at least, for both under and over-exposure, but materially modify the results from correct exposures.

And to a considerable extent this is true. In a solution weak in reducer, say, one grain of pyrogallol instead of three, density in the high lights does not come nearly as soon as in one that is stronger, and as

the tendency of under-exposure is to give too great contrast, shadows too transparent and lights all equally dense, the best results are to be expected by developing in a solution weak in reducer and strong in the alkali, sometimes called the **accelerator**.

Over-exposure on the other hand tends to flatness or lack of contrast. Detail in the shadows comes too quickly and the lights, as it were, hold back; the former being too strong and the latter too weak. And it is here, and, according to Watkins, here only, that a bromide is of use. If added to the developing solution *before development begins* it will hold back the more weakly impressed parts of the image till the reducer gets in a considerable part of its work on the more highly impressed portions; so that in a solution strong enough of both reducer and bromide, the shadows will be held back till the lights are fully developed.

Or, to state it in another way: The getting of contrast by development by any reducer is only a question of time; the longer the operation the greater the contrast, within limits, of course. But on an over-exposed plate the shadows come up as soon and as fast as the lights, and the operator's object should be to hold back the former and hurry up the latter. Bromide does the one and an additional quantity of the reducer does the other.

To facilitate such modification of the developing solution, and because most of the reducers and especially pyrogallol do not keep well in the presence of an alkali, the general practice is to make and keep the developer in two separate and generally concentrated solutions, of which the following may be taken as a type, premising that for most purposes almost any of the other reducers may be substituted for the pyrogallol:

A.—	
Pyrogallol.....	240 grains.
Sodium sulphite (crystals).....	960 grains.
Water.....	10 ounces.
B.—	
Sodium carbonate.....	1,200 grains.
Water.....	10 ounces.

For a normal developer, *i. e.*, for the straight development of a correctly exposed plate, take one ounce or part each of A and B, and six ounces or parts of water. For known over-exposures take an ounce and a half or two ounces of A, an ounce of B, 120 minims of a ten per cent. solution of potassium bromide, and make up to eight ounces with water; and for known under-exposure a quarter of an ounce, 120 minims of A, one ounce of B, and make up to eight ounces in the same way. On over-exposures developed in this way sufficient density and generally sufficient contrast is simply a question of time, and the negative, so far as technique is concerned, will need no further treatment; but on plates that



Chicago Salon.

"MRS. KASEBIER."

Alvin L. Coburn.



No. 1566.

"SHEEP."

W. A. Rowley.

have been under-exposed the action should be stopped as soon as the detail, or all that will come, has been got, depending on intensification by any of the well known methods for the necessary printing density.

While the glory of photography is its perfect technique—its perfection as "a recorder of fact," those, or some of them devoted to its pictorial phase do not always aim at such perfection. Looking for "effects," they frequently depart considerably from both correct exposure and straight development to secure them, but they should aim at mastering technique before they begin to modify either, as the more thoroughly they do so the easier will it be for them to secure by such modification just what they want.

But while tentative development—the modifying of the developer according to circumstances, as shown by frequent examination of the plate during development—is still largely practised, developing by "time" is rapidly coming into favor. For it we are indebted to Watkins, of Hereford, England, and although I was one of the many who on its introduction gave it considerably more than the cold shoulder, I have long since seen the error of my way and have no hesitation in hailing it as the greatest advance in photographic manipulations during the last two decades of the nineteenth century.

Briefly, Watkins found that there was a constant relation between the time that elapsed between the pouring on of the developer and the first appearance of a high light, say, the sky of a landscape or the shirt or collar of a portrait, and the time taken to complete the development. He found also that, with the exception of pyrogallol, that relation differed with each different reducer, and having by a long course of experiments discovered the time taken by each; published what he called a list of developing factors.

Thus, in the case of ortol, while the "time of appearance," viz., the time between the immersion of the plate in the developer, and the first appearance of a high light, varied with variations in exposure, temperature, formula, etc., development was complete in just ten times that. For example, if the time of appearance be 30 seconds, development will be complete in just 300, or five minutes from the time that the solution was poured on the plate. With a solution weaker in ortol, and at a lower temperature, the first appearance may not occur till after the elapse of 50 seconds, but development would still occupy ten times that, 500 seconds, or eight minutes and twenty seconds.

Pyrogallol, as I have said, was found to be an exception to the rule, as various strengths, and with and without bromide were found to have



No. 1564.

J. S. Crockett.

"CO BOSSIE."

different factors; but the following list will be found as nearly correct as may be:

SUGGESTED MULTIPLYING FACTORS.

Pyro-soda, 1 gram, no bromide.....	18
" 2 grains, "	12
" 3 " "	10
" 4 " "	8
" 5 " "	6½
" 1 gram, bromide ¼ gram.....	9
" 2 " " ½ "	5
" 3 " " ¾ "	4½
" 4 " " 1 "	4
" 8 " " 2 "	3¼
Adurool	5
Kachin	10
Hydroquinone	5
Eikonogen	9
Metol	30
Glycin	17
Amidol (2 grains)	18
Rodinal	40
Ortol	10
Edinol	6
Pyrocatechin	10
Imogen	6

It should be said, however, that the factors are not absolutely fixed quantities, but may be diminished or increased according to the effect desired, shortening tending to lessening and lengthening to increasing contrast; the cumulative action of the developer continuing to build up the lights after doing all that can be done on the shadows. It has been found also that the factor of a mixture of reducers is a mean of that of those mixed, *e. g.*, equal parts of one at 20 and one at 10 being 15.

Attention may also be directed to the fact that simple as the calculations are they may be still further simplified by the employment of a reducer such as edinol with a factor of 6, or any mixture with such a factor, as then it is only necessary to place a point between the figures of the time of appearance, or between the last two figures of that time and call it minutes. Thus, the time of appearance is 45 seconds, and the time of development 4.5, or four and a half minutes. Or the devotees of pyro may employ a 2-grain solution of their favorite reducer with half a grain of bromide in each ounce of water to reach the same goal. With a factor of 6 this may give, for some subjects, just a little more contrast than is desirable, but the remedy is simple—a little more water. Equally simple will be found a factor of 12 for those who prefer the popular "metol-hydro"; hydroquinone with, say, about one-eighth of metol; it being only necessary to place a point between the figures denoting the time of appearance as with the factor of 6, calling the result minutes and doubling them for the time of exposure. Thus, time of appearance forty-five seconds, 4.5 or nine minutes.



Chicago Salon.

"A RIFT IN THE CLOUDS."

E. M. Blaine.

Words From The Watch-Tower.

BY WATCHMAN.

Mrs. R. B. French in *Photo Era* gives some good advice on the taking of snow pictures, in which the mention of the exposure given to the very best of the illustrations should make some of our snapping cranks "take a thought and mend." She says "A March Morning" was taken early one bright, clear day before nine o'clock, with an exposure of one and a half seconds, and an aperture of $f/16$; and of "The Pines" and "After the Storm," neither of which are quite so good, "I gave an ex-



"MEXICAN CACTUS."

Flowers bright scarlet. Carbutt's Polychromatic Plate. No light filter used.

posure of about three seconds with $f/32$ ". Beautiful as is "A March Morning," a careful examination leads me to say that with an additional half second it would have been still better.

In the same number Thomas R. Cummings whets the appetite of his readers by saying that H. M. Prindle loads, exposes and develops his plates in "broad daylight," thus giving another method of doing away with the dark room; but that, in the meantime at least, the inventor keeps his thumb on the nature of the solutions which he employs.

But he had better look out, as I learn from *The British Journal of Photography*, that there is another Richmond in the field. This time a German, who has patented the use of a developing solution colored so as to prevent the transmission of actinic light to the plate, yet leaving it clear enough to see the progress of development.

I do not care to guess; but if Prindle and the German are working on similar lines they would do well to look up the record of the once well advertised Nuktigonia Company. I doubt whether the name is correctly spelled, and am too far from home to consult the label on the bottle of a deeply colored aniline solution that nearly twenty years ago was to work such wonders—and didn't.

* * *

Although for over twenty years I employed the lantern probably as frequently as any man who did not altogether make his living by it, I never once used or allowed to be used two lanterns to produce so-called dissolving,—dissolving one picture into another, probably because I never could induce an assistant to do the job as I thought it should be done, and to a certain extent because of the ludicrous effect sometimes produced, when, for example, a cow began to appear transfixed on the apex of a steeple. Nor is it to be wondered at that “dissolving” is so muddled if operators follow the instructions given in a recent exchange. Speaking of dissolving, the author of the article says, “In order to do this (dissolve) two lanterns have to be used, each containing a picture. The light in one is up, the other down. Gradually the latter is turned on. *and as soon as this has been completed* the light in the former is gradually turned off. The italics are mine, intended to emphasize what appears to me to be the serious error. Surely the full glare of the two lights on the screen at the same time is not conducive to a satisfactory effect; and I had thought that dissolving taps were made so as to shut off light from the departing picture at the same time and in the same proportion as that of the coming one was turned on.

* * *

It has long been known that most of the members of the British Royal Family took a keen interest in photography and that some of them were no mean adepts in its practice; and now, if I may believe *The Whitehall Review*, the Christmas gift from His Majesty the King to Queen Alexandra was a “camera of the latest pattern, replete with all modern movements.”

* * *

It is amusing to notice the notions with which so many rush into print, and how often the simplest things are misunderstood. I notice the following because of its photographic interest, and from the fact that if there are others who think with Mr. Ritchison, they must be all at sea should they attempt to understand three-color photography. The said T. Ritchison in attempting to correct an article in the *Scientific American* on the influence of red glass on plant and animal life, says it is a mistake to suppose that plants under red glass are subjected to red rays as the reverse is the fact; “as the red glass has absorbed all the

red rays of light, and the remainder only have penetrated." I had supposed that everybody believed that a red glass was so because it *absorbed* practically the green and blue-violet and *transmitted* the red, and am quite sure that if I am wrong there are thousands and thousands in the same boat.

* * *

Dr. Baraduc, whose vagaries I have several times noted, has been at it again and if credence *could* be given to his assertions, nothing, or indeed all that photography has already done is but a drop in the bucket to what it may yet do. The possession of a photographic plate will make us more like gods than men, as nothing, not even the secret thoughts and intents of our fellows will be hidden from our eyes. Here, according to the *English Mechanic*, are some of the results or revelations that he claims:

Dr. Baraduc says: "My researches have been conducted with the object of diagnosing my patients, especially those suffering from nervous diseases or cerebral excitation. I have called my process 'Therapeutic Photography.' And I am making it of practical use from a physiological point. For the examinations of patients suffering with hallucination and for others on the verge of madness the indications on the plate are extremely useful. When I am assured that a subject is the victim of insanity I can cure him with my method of electrification, which is effected with a special apparatus, and which scatters the demoniac images in the brain and disengages them. When the patient is restored to his normal health the plate records little or nothing. This diagnostic plate registers the mental excitement much as a thermometer records the degrees of heat. In my first experiment I laid a photographic plate between a sheet of heavy black paper, so that no light could possibly penetrate. I held the plate between my thumbs and forefingers, the thumbs about an inch apart. When I examined the plate I discovered that the salts of silver had been operated on by some invisible medium, which must be the living light exuding from the bodies of human beings. There was a 'fluidic' line connecting the thumbs. I rarely employ a camera in photographing vital energy, wrapping my plates in black paper, or conducting my experiments in a dark room. Success greatly depends upon atmospheric conditions, the electric tension in the air, and the degree of heat or cold. When it is warm, the force is much greater. This force is also especially strong in persons of highly nervous condition, those vibrant with the passion of love or hate.

"Subjects on the verge of madness leave their impression upon the plate in a decided manner. Held over the epigastrium of a fever patient, certain results are inevitable, the vibrations being projected in the form of a multitude of tiny globules. Tried on a person seized with a fit of anger, the photograph shows vortices of temper like the convolutions of a cyclone. I have taken photographs during the hours of sleep, the impressions of the dreaming brain being recorded by the chemicals. Different emotions leave different impressions. I have taken those of a person engaged in prayer, and the sacred aspirations scattered themselves about upon the plate like pearly beads. When the invocation was extremely ardent, it appeared like a tongue of fire. With a person

whose heart is sad the emotion is expressed in a 'whirlwind of radiation' of lines. When there is joy, the emanations expand, and resemble the images of the Röntgen ray. Not only human beings, but animals, plants and flowers, are subject to this law of radiation, which can be photographed. I have shown how the satisfied purr of a cat affected the plate, or even the soft coo of a pigeon. I made an analysis of the feelings of a frightened dove, whose alarm was projected in vitalized round spots. I have tested the force of the circulation of the blood taken warm from an animal just killed. Its radiation has the appearance of cirrus heart, and, whether elevated or degraded, is faithfully registered upon the tell-tale chemicals. It usually requires fifteen minutes to affect the plate. In order to take a vibratory picture I hold my plate near the forehead, the hand on the heart, or, in fact, any vital portion of body or poles of life. Placed over the heart the picture is rapidly made.

"A most curious thing is that all of these photographs of vital energy show evolutions either from left to right or from right to left. This movement I have designated as 'curved force.' I have deposited a paper dealing with the subject in the archives of the Academy of Sciences. In conjunction with M. Bacle, of the School of Engineering of the Polytechnique Institute, I have photographed bacilli, and we intend to pursue our researches. In water which has been magnetized the effect produced resembles a nebulous cloud. I have made another curious application of photography, which trenches upon the domain of psychology. This I have designated 'telepathic photography, or the photography of the invisible.' These pictures are produced solely by concentration of thought, the person desiring to conjure upon the image of a dead, absent friend being enabled to do so by the intensity of the idea with which he is imbued. These pictures, the result of the imagination, frequently show a great resemblance to the physical reality. It must be understood that there is no clear-cut defining of the lineaments, only a nebulous face, a shadowy suggestion of the brain created in the astral light. They resemble portraits made with a crayon in which there are no hard lines. I have also named these pictures 'soul images.' The hand shows how the magnetic fluid emanated from a person endowed with hypnotic power. All of the illustrations were taken without a camera and in the dark, except the portrait of the young girl. It was secured when she was in a fit of anger because her mother had boxed her ears. The face appears surrounded by coruscations of indignation, a vortex of sparks like those from a rocket. In order to perfect my psychic and therapeutic photography it would be necessary to invent a more highly sensitized plate capable of registering even the feeblest emotions. If unalterable gold salts could be employed this might be achieved. If such a plate could be manufactured it would make it possible to demonstrate the existence of the invisible forces which surround us, and are not perceptible except to supersensitive and impressionable natures. Some persons with leisure and a fortune might find it interesting to experiment in regard to this sensitized plate, but a special laboratory would be necessary. It is impossible for me to devote myself to the discovery of the means of producing it, as my time is too fully occupied with my practice."

One of our dailies, speaking of Dr. Baraduc, says: "If the charge against the doctor is well founded, a photograph of his own complicated state of mind would be worth having as a curiosity."

* * *

It is sometimes good for us "To see ourselves as others see us," and so I clip the following from *Photography*:

"One of those amusing business episodes which are common enough in the United States, and impossible here, has just been entertaining photographic circles in New York. The firm of C. P. Goerz has built up a big business in its well-known lenses over there, importing them in an unmounted condition from Germany, and paying on them the protective tariff of forty-five per cent. *ad valorem*. The Bausch and Lomb firm also make an anastigmat, which competed with Goerz, and taking the view that the latter for customs' purposes regarded his excellent lenses as worth far less than their real value, took steps to have that value and the duty consequent thereon raised. The authorities at Washington obligingly complied. Thereupon the Berlin firm, not to be outdone in rivalric appreciation, intimated that the Jena glass imported by Messrs. Bausch and Lomb was also appraised too modestly. Again Washington obliged. As a result, the United States Government is making a big claim against both parties, which both parties are resisting, and a Government commission is in Germany investigating the cost of production both of glass and of lenses. Meanwhile, two new factories are going up at Rochester. One adjoins the Bausch and Lomb works, and it is said will produce glass, while the other, if all we hear is true, will not be altogether dissociated from the Doppel Anastigmat. In the long run, neither firm will suffer, we suppose, the hardships falling upon that long suffering Issachar, the American consumer, who, if he serve no other purpose, at least testifies—Mr. Reid, please note—that the madness of protection may be as great as the madness of free trade."

If it were not that I know that the editors blue pencil every allusion to politics I should like to say my say on the "madness" that makes it possible for people who boast so much of the power of the ballot box willing to pay nearly two prices for so many of the articles in daily use.

* * *

Arthur Payne, in *Photography*, dons the prophetic mantle and gives to the professional photographer the following advice as a means of lifting their business to the dignity of a profession:

"It is to the interest of the professional photographers at least to lift their business to the dignity of a profession, which may best be done by increasing the range of learning necessary to become a successful worker. The public as yet do not know what may be done by photography. The photographer uses this ignorance as a cloak for his lack of knowledge, but in time the public will know and will demand that their photographs be taken according to their wishes, and in the succeeding weeding-out process the students will reap the benefits of their knowledge."

There may be truth in this, but it will be new to some who have excused themselves for sticking to "the usual thing" by the necessity for catering to an uncultured clientele.

Notes.

THE BAYER PHOTOGRAPHIC PREPARATIONS, of which we have frequently written approvingly, have, we notice, been awarded the gold medal at the recent Düsseldorf Exhibition; and, judging from our experience, they well deserved it. The longer we use edinol the better we like it; and aceton sulphite supplies a long felt want.

AN IMPROVED PYRO FORMULA.—Professor Valenta has been experimenting with pyrogallol and says that a solution made according to the following formula is from three to four times more rapid than the normal pyro-soda, while it remains colorless during the development of at least three plates.

Pyro is, he says, a triatomic phenol, and that in the presence of an excess of caustic alkali the three hydrogen atoms of each hydroxyl group can be replaced by one of the fixed alkalies; but that if only sufficient alkali be added to saturate one or two of these the result will be a mono—or di-phenolate.

The following formula gives a solution of the monophenolate with the good qualities already mentioned; a pyro developer free from the faults usually found with pyro:

A.—		
Pyrogallol.....	50	grains.
Sodium sulphite (cryst.).....	350	grains.
Water.....	2½	ounces.
B.—		
Caustic potass.....	23	grains.
Water.....	2½	ounces.

For use take one part each of A and B, and one part of water.

THE DEVELOPING MACHINE, as was expected, has brought out wide difference of opinion as to its advantages and disadvantages, the expression of some of them being amusing reading. In view of the favorable notice that appeared in our December number we felt it our duty to look rather carefully into the objections brought against the machine, and find that they have their origin in a misconception of its real object or of the claims that have been made for it. Those, or most of them, who make them expect the machine to do the impossible, to develop good negatives on under-exposed films, a thing which no amount of "tinkering" will do, even if those who know so little of photography as to under-expose knew enough to "tinker," nor have we any hesitation in saying that they will do better with the machine when they have mastered its method of operation than they could do without it.

The best reply to those objectors that we have seen is the following, by Mr. F. Evans, which we clip from *The Amateur Photographer*:

"I have not seen Mr. Bennett's diatribe against this most ingenious and valuable accessory, but from Mr. Wright's answer to him I think the latter might have made another hit by asking if Mr. Bennett would advocate 'modified development' for such small work as film spools; surely even he would find it impossible to control portions of image on such a small scale while developing; and as for alterations of developer dur-

ing development of such small work, I would differ entirely and say it was not only totally uncalled for but a waste of endeavor. Even in my own large work, 10 by 8 (though that is but small really), I rarely find it advisable to modify developer during course of development; I know Mr. Bennett's cleverness in this direction, but I always feel that the result of such alteration, such control of portions of the image, is an unconvincing positive. One feels it has been cleverly achieved, but one doubts its reality, its validity. Personally, I always find that attempts at such control effect more than one intends, alter other gradations and planes and values, and tend to inartistic because untruthful, non-natural results in the finished picture.

"The great value of the Kodak developing machine is that it insists on a normal developer in proper quantity and at the correct temperature, and used for a proper length of time, coupled with complete darkness for the entire operations. To ask the ordinary amateur to give absolute obedience to these points in his ordinary (or extra-ordinary) dark room, is to ask the impossible; therefore, as these points are not easy to combine, even for the professional, the machine will, for the professional developer as well as for the amateur, give the best possible conditions and chances to the exposed spool.

"As to the question of varying exposures on the same spool, what does that matter, provided they are each within a reasonable limit of the latitude the film gives? If one is really under-exposed it is hopeless anyway, but if many are feared to be slightly under-exposed, it would be best to weaken the developer in its density giving element and develop longer; this would not injure the properly exposed or over-exposed portions of the spool though they might be thin from under-development, which, however, intensification would put right.

"Anyway, the knowledge that full success with this machine depends upon proper exposure will have the excellent effect of compelling more attention to the conditions and extent of exposure. I distinctly disagree with Mr. Bennett that the best results are only got by exercising the fullest control, if he means by that, control during development, for I think that is the wrong way about; the whole secret of good photography is knowing the ideal conditions to expose in, and what is the fullest exposure such conditions will allow one to give. Given that, and the development can hardly be too mechanical in the actual application of the chemicals to the film.

"Artistic prints are only to be got from soft, rich negatives, and the usual fault in all formulae is far too great an amount of reducer, the density giving element; our motto may be not so much 'keep your powder dry,' as 'keep your pyro down.'

"I should think professional developers would welcome the machine, for the customer will now be guaranteed that the failures are really his and not due to faulty development; certainly, whatever rollable films I expose in future will be developed per machine, though it is a little wasteful and expensive in the matter of solution."

ACETONE SULPHITE AS A RESTRAINER.—In a paper on acetone sulphite, read before the Düsseldorf Photographic Society by Dr. Eichen-

grun, he has the following to say of its restraining power, premising that good negatives may by its aid be developed on plates that have received exposures of 20,000 times the normal:

"The method is different from those hitherto used, in which a large quantity of bromide, a very concentrated developing solution, and as short a time as possible for development, are employed and the strongly fogged image then reduced. The ordinary (say $\frac{1}{2}$ per cent.) solution of the developer is used without bromide, but with about 1 per cent. of acetone sulphite. Thus, for example, 4 c.c. of edinol developer are mixed with 100 c.c. water and 1 gm. acetone sulphite or 2 c.c. of the concentrated solution. By this method, instead of suddenly bursting out in a few seconds the image appears gradually after about a minute, and the development is proceeded with comfortably till the image appears of normal density; no fog will have arisen by this time, a clear negative very suitable for intensification if necessary being the result.

"This novel behavior of acetone sulphite renders possible all exposures, which to give contrast cannot be over-exposed for the shadows; thus over-exposure in the studio, reproduction of pictures, portrait-taking in harsh light, dark interiors with window, machinery, tools, etc., with strong reflections, and similarly for over-exposure in the open country, landscape-taking in sunlight, glaciers and sea pictures, etc.

"A great number of experiments have shown that equally good negatives can be made with normal exposures and with such enormous over-exposure as of 6,000 seconds.

"The new method thus renders it possible to take negatives, against and including the sun, which would otherwise produce reversal and great halation, and this with a certainty which did not previously exist. On development with the help of acetone sulphite, a clear negative free from fog is obtained, even when the sun has shone directly into the lens during exposure; the plate, which generally requires intensification, is taken out of the bath before the appearance of reversal, which, contrary to earlier views, seems to be a function of development. Landscapes may be photographed which contain the sun, and clouds strongly lighted, the sun being about 10 degrees inclined to the optical axis, and the details in the shadows are all produced. Similarly with landscapes containing the sun in the sky and its reflection in water below."

THREE-COLOR PRINTS BY THE "CARBON" METHOD.—The following outline of a three-color method by M. Leon Vidal, sufficient to start the experimenting amateur, is taken from *Moniteur de la Photographica* by *The British Journal of Photography*. Coat talced glass with tough colodion made by the following formula:—

Absolute alcohol	50 c.c.
Ether	50 c.c.
Pyroxiline (not powdery)	2 grammes.

When the film is dry coat the plates again with a solution of very soft gelatine, such as Nelson's, in the following proportions:—

Gelatine	30 grammes.
Water	200 grammes.
Loaf sugar	6 grammes.
Glycerine	6 grammes.

The coloring matter should be added to this solution and selected from red, blue, and yellow pigments of the nearest shades to satisfy theoretical considerations. The pigments should be ground as fine as possible in gum-water, a tedious process, which may perhaps be avoided by using artists' water-colors, as supplies in tubes. The quantity of color must be determined by experiment. Filter the solutions through muslin, coat the plates to a depth of 2 m.m. in each case, and when the gelatine is set transfer them to a drying cupboard containing trays of chloride of calcium. Sensitize the plates just before use with a 5 per cent. solution of bichromate of ammonium, in which they should be left during five to ten minutes. Place them again in the drying cupboard, and when perfectly dry cut round the margins with a knife and straight-edge, and strip the films ready for printing under the three negatives made for the primary colors, using an actinometer for the exposure. Develop the films with warm water, laying them down for this purpose on sheets of glass coated with—

Pure india rubber	10 grammes.
Benzine (crystallisable)	100 grammes.

Wait until most of the benzine has evaporated, and while the indiarubber is still tacky lay the print upon it, collodion side downwards, and roll the film with a soft roller into perfect contact. After development, and when the film is perfectly dry, cut round the edges and strip. Clean off the indiarubber by friction with the finger. The three films may be cemented together with Canada balsam, if small, or with a 5 per cent. solution of gelatine, if large. Retouching may be done with pigment, before the films are cemented together, by mounting them once again upon glass with indiarubber cement. For making transparencies, instead of pigments, use aniline dyes, recommended by M. M. Lumière, according to the following formulas:—

Red Bath.

Water	1,000 grammes.
3 per cent. solution of Erythrosine J No. 398.....	25 grammes.

Blue Bath.

3 per cent. solution of pure blue diamine FF No. 192	50 grammes.
15 per cent. solution of glue.....	70 grammes.

Yellow Bath.

Water	1,000 grammes.
Chrysophenine G No. 207.....	4 grammes.
Dissolve at 70 deg. C. and add alcohol.....	200 grammes.

The red and blue dyes are from the catalogue of the Badische Anilin and Soda Fabrik, and the yellow dye from that of Leonhardt & Co. The red and yellow prints may be used without fixing, but the blue should be dipped in a 5 per cent. solution of sulphate of copper and then rinsed. The pigment prints, when cemented together, should be mounted on paper with a solution of gelatine. The process would be much simplified if suitable carbon tissues, true to color, were purchasable.

AT THE latest meeting of the York P. S., Mr. Eustace F. Wallis delivered a highly instructive lecture on "Shutters," dealing more especially with that form known as the focal plane. He commenced his remarks by describing the various forms of shutter, and compared the

relative efficiency of each, commencing with the guillotine variety, of which the "drop-shutter" and "roller-blind" are the best known forms, and which consist of a large aperture in some material passing once in front of the lens. This type of shutter, he stated, was the most generally useful for ordinary work. Passing on to the principal part of his subject—the "focal-plane shutter"—he showed, by a series of diagrams, in what respect this form can overcome all the disadvantages which are inherent to the other types mentioned; and how that, owing to the whole of the light passing through the lens being available, the effect on the plate was such that an exposure of 1-150th of a second was the equivalent in effect to an exposure of 1-50th when the shutter is operated close to the lens, whether it be in front, behind, or between the combinations.

AT THE "International Exhibition for Photography and Allied Industries," Amsterdam, August and September, 1902, the well-known photographic "Agfa" articles of the Actien-Gesellschaft für Anilin-Fabrikation, Berlin S. O. 36, viz.: Agfa Dry Plates, Agfa Flat Films, Agfa Rollable Films, Agfa Developers, Agfa Specialities, etc., have received the Diploma of Honor, being the highest distinction.

Contribution Box.

DARK ROOM LIGHT FOR AMATEURS.

I HAVE been using a source of light for some time which is free from smell and gives such satisfaction that I will describe it for the benefit of others. It is assumed that the operator has or can get a source of electricity of about 4 volts tension with a current strength of at least $\frac{1}{2}$ ampere. This is to be reasonably steady. Dry batteries would do and also the small plunge bichromate style. I prefer two 16 ounce home-made storage batteries whose plates have a total positive and negative surface of nearly 100 square inches. These I recharge on an average of twice a month. The only requirements besides the battery are a tumbler about 5 inches high, one chemists' test tube large enough in diameter to allow the small electric lamps to pass on the inside of the test tube, some cotton with which to plug up the tube after the lamp is in place, a large cork to fit the tumbler, with a hole in the center in which is placed the test tube, which should fit tight enough to hold it in place. Small lamps can be had about the same diameter as a lead pencil, requiring $3\frac{1}{2}$ to 4 volts, for 35 cents. The lamp is to be suspended in the test tube, held in position by the cotton, which is stuffed around the wires. These wires passing up the tube from the lamp may be fastened to the large cork in the tumbler by small screws and the battery connected to the screws. A simple switch and about 3 to 4 ohms of resistance could also be placed in the circuit; this should be variable, and would serve as a dimmer or to cut off the light when not wanted.

The tumbler is then filled with a suitable dye in solution. I have used a 10% solution of bichromate of potash, to which is added a few drops of a saturated solution of permanganate of potash. This gives a good

ruby color but does not keep well. I am now using aniline orange dye but of what strength I am unable to state. A strong solution of the bichromate alone will, however, make a safe light. Among the advantages I claim for my lamp is that the light is distributed all around and thus any article in the dark room can be easily found; the light can be conveniently moved around and if a screw-eye is placed in the cork tumbler cover it may be lifted together with the lamp out of the solution and a white light instantly obtained.

FRED. LISCOMB.

STOCK SATURATED HYPO SOLUTION.

As it is annoying to wait for the solution of the hypo crystals where only occasional work is being done, or even in regular practice, it is advisable to keep on hand a saturated solution. This is made by filling a network bag with the salt and suspending it in a wide-mouthed jar so that it just dips below the surface of the water. Solution then rapidly progresses until the water refuses to receive any more. For plates use equal parts of water and saturated solution of hypo and for the general run of papers two parts of water to one part of the solution. By adding enough water to the stock solution to replace that which has been used each time, and a cupful enough of the hypo salt to provide for some undissolved crystals always remaining at the bottom of the vessel, a solution of known strength is always on hand and ready at the shortest notice.

M. P. ROLLINS.

TESTING FOR HYPO.

It is well known that too much washing or rather too long in the washing water is apt to injure the silver prints, and consequently it is desirable to limit the washing to just sufficient to remove the hypo. Just how much or how little may be necessary is easily ascertained by the following simple test. Dissolve a few grains of permanganate of potass in an ounce of water, and to, say, a drachm of water in a test tube add sufficient of the solution to color it so that it shall just be perceptible when examined against a sheet of white paper. To this add an equal quantity of the drippings of the last water from the print, which, if they contain a trace of hypo, will discharge the color. If the color remains it may be taken for granted that the washing has been sufficient.

T. PARKER.

HYMN OR NOTICE SLIDES.

Lanternists may be interested in an easy way by which I have made some fine slides of hymns, etc., which the audience may be asked to join in singing to break the monotony of the usual lantern lecture.

I cleaned some spoiled rollable film and placed it in my typewriter backed by a piece of stiff paper on which was outlined the size within which the writing should be kept, and, with black ink on the pad, the writing was sufficiently opaque to show well on the screen. The film was cut to size and mounted between two glasses in the ordinary way, the whole operation occupying only a few minutes.

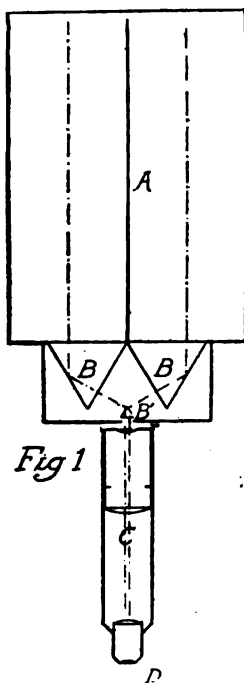
J. W. ALEXANDER.

A New Device for Stereoscopic Photomicrography.

By F. E. Ives.

[Reprinted from the "Journal of the Franklin Institute."

I HAVE recently made a one-plate-one-exposure stereoscopic photomicrographic camera, which is interchangeable with the single camera on the adjustable base, described in the *Journal of the Franklin Institute* for May, p. 375. It consists of a light telescopic box camera for plates 3 1/3 in. by 6 in., which is provided at the front with a small prism box containing three equilateral prisms, so disposed as to divide the light at the eyepoint above the eyepiece of the microscope, and project the divided rays upward to form the two stereoscopic images. The figure shows the parts drawn to scale. A is the camera, B B B are the prisms, C is the microscope tube with objective and low-power eyepiece, D is the object slide, and the dotted lines show the path of the axial rays from the back of the objective.



It is the usual practice to divide the light at the back of the objective, but inasmuch as the spot of light at the eyepoint, above the eyepiece, is an image of the back of the objective, it answers the same purpose, when working with an eyepiece, to divide the light at this point; and in the present device this is accomplished by the small equilateral prism. If this prism is perfectly accurate, the result is two images as perfectly stereoscopic and as perfectly defined and evenly illuminated as the images projected one at a time in the usual way; in fact, the images may be more evenly illuminated than is possible in the usual way when the objectives have long mounts.

By adding a lens of the focal length of the camera, for which there is room by using it as a cap for the eyepiece, the camera can be used without even refocusing, in the manner described in my communication already referred to.

The prism box has a lateral fine adjustment by screws on the camera front, in order to readily set it so that the apex of the small prism exactly bisects the circle of light at the eyepoint. This adjustment can be made by looking through the prisms from the back of the camera.

I think it is a mistake to divide the light anywhere back of the objective when working with high powers on transparent objects, because some of the diffraction pencils which define very minute details, emerge from the half of the objective opposite to that which belongs to the respective dioptric projection. It is probably for this reason that the Wenham binocular cannot be made to perform satisfactorily with high

powers. This stereoscopic camera, for precisely the same reason, should only be used for subjects which may be satisfactorily shown in the binocular microscope. With a 2 in. Huyghenian eyepiece, amplifications from x10 (3 in. objective and short tube and camera) to x120 (1-2 in. objective and long tube and camera) can be made satisfactorily by employing color-sensitive plates and a yellow screen. With Zeiss's 16-millimeter apochromatic objective and the "finder" (2) compensation eyepiece, ordinary plates can be used without the color screen.

The negatives produced in this camera are ready for printing from, no transposition of images being necessary, and for this reason only I prefer it to two otherwise equally simple and efficient combinations with which I have worked.

The Influence of Photography on Wood Engraving.

By F. W. GOOKIN.

THAT engraving on wood seems likely to become, like line engraving on steel, almost a lost art, is but the natural consequence of the invention and perfecting of the various processes of photo-mechanical reproduction. There are many reasons why this should be so. It is not only that the mechanical processes are both actually and relatively cheap. The gain in literal fidelity is indisputable; there is no tedious waiting for the tardy engraver; there is no intrusion of his personality into the result. These considerations are commercially effective, and of more weight with both publishers and public than realization of the shortcomings of the process print. The blurring of some qualities and over-accentuation of others in the mechanical reproduction, the inevitable omission of that intangible vivifying something, which, for want of a better name, may be called the soul of the work, is commonly overlooked. And with the improvement of photography by which more accurate rendering of tone values is secured, there is much reason to fear that the day of the wood engraver is almost at an end.

But the end is not quite yet, however, for the greatest of all wood engravers has not yet laid down his tools. Timothy Cole's series of wood engravings after the old masters of painting may without exaggeration be said to represent the crowning achievement of the art. This is high praise, but not more than is deserved. Professor John C. Van Dyke does not put it too strongly when he says that the series "cannot be regarded as other than monumental." The high standard set in the "Old Italian Masters" and "Old Dutch and Flemish Masters" is fully maintained in Mr. Cole's new collection of eight and forty examples of the "Old English Masters." In cutting the blocks for these, Mr. Cole was constantly occupied for nearly seven years. Many of the plates have appeared in the *Century Magazine*, but in their present form they gain much from heavier paper and more careful printing.

In the technique of his craft Mr. Cole is absolutely unsurpassed. His method is in strict accordance with the best traditions of the art. Always and everywhere he uses the pure white line and stipple around which such animated controversies have arisen between advocates of different styles of engraving. How wide, how almost infinitely varied, are the possibilities of this white line, is nowhere better shown than in Mr. Cole's masterly use of it. In his hands it becomes vibrant, instinct with life; yet firm, clear and restful. As in all craftsmanship of the highest order, there is here no trace of indecision. The handling is free, strong and direct, but without any trace of hardness. It is this combination of strength with softness and delicacy, of breadth, dignity and subtlety, that reveals in Mr. Cole not the mere translator of other men's work, but the artist of consummate ability. Yet as a translator and interpreter of the individual qualities of the painters whose works he has reproduced he has also achieved a high degree of success. It is difficult to say whether, in such an example as the "Detail from Hogarth's *Marriage a la Mode*," we should most admire the exquisite nicety with which the quality of the painting, the character and expression of the several figures, and, in particular, the atmosphere—the envelope—of the original have been placed before us, or the wonderful technique by which this result is accomplished.

The achievement is the more remarkable when the narrow range of the tone values in this picture are taken into consideration. A line or a dot misplaced, made a hair's breadth too large, or taken in the wrong direction, would have been fatal to the result. The direction in which the lines made by the graver shall run is indeed one of the most important questions which the engraver has to decide. It is true that it is largely determined by the perspective of the planes in which the surfaces lie. But that is not all that needs to be taken into account. Some of the things that have to be considered, and how skillfully Mr. Cole has met the varied problems presented, may be seen by noting the different ways in which he has treated the faces in the portraits reproduced. How essentially unlike in character are the rhythmic and sinuous lines with which he has placed before us the lovely face of the "Parson's Daughter" by Romney, and the white lines crossing each other so as to leave little rectangular dots at the intersections, which he has employed in the engraving (one of the finest in the series) of Sir Henry Raeburn's portrait of Mrs. Scott Moncrieff! How different also is his treatment of the faces in the engravings after Reynold's portrait of Lord Heathfield, Hopner's portrait of William Pitt, and Raeburn's presentation of the massive features of Lord Newton! Equally worthy of study are the lines adopted to render the textures of the different fabrics depicted, and the consummate skill with which both quality of surface and tonal truth have been secured.—*Chicago Dial*.

Our readers will please note the particulars of the Lantern Slide Competition on page 91. It is our hope that the entries this year will be more and better than ever before.

Mrs. Kasebier.

R. CHILD BAYLEY, editor of *Photography* (London), who recently visited this country, is treating his readers to a series of articles descriptive of his impressions of his trip. The following interview with Mrs. Kasebier we repeat, as it will tend to dispel some erroneous ideas prevalent regarding the gifted lady whose portrait by Alvin Langdon Coburn appears in this issue.

"How do you like America?" said Mrs. Kasebier with a cheerful laugh, as we stepped out of the elevator into her flat at the top of a house in Fifth Avenue, New York. We explained that our impressions had not altered for the worse since we were first asked the question—about ten o'clock one night, when our personal knowledge of the United States was limited to the view of the Nantucket light about ten miles off on the starboard bow.

So this was the reception room, workroom, studio, *et hoc genus omne* of the first professional in America (and, *therefore*, in the world, we had nearly added, for the American attitude is catching). There was really nothing to see. A chair or two, a few screens, patternless and of a quiet greenish shade, on the walls some framed photographs, were all that could be seen. There *was* a skylight, it is true, but it looked as if it were there to light the room in the ordinary course, and had none of the home-made greenhouse air that such lights often present, even in elaborate studios. The place was in perfect taste. Its atmosphere was quiet; there was as little suggestion of Waltonian *delirium tremens* art as there was of mid-Victorian decoration. The usual paraphernalia which one associates only with the photographer, the Inquisition, and the dentist, were not to be seen. Mrs. Kasebier *is* a photographer. We have handled her negatives, and very good negatives they were; so, presumably, she uses a camera, but she does not keep it very much in evidence.

Those who have never seen the subject of this sketch may be interested to learn that in personal appearance Mrs. Kasebier is of medium height, alert and active in figure, and intensely earnest in expression; while in years—well, *Miss* Kasebier has all the charm we associate with the later teens.

We received a kindly welcome of the sort which seems commoner in America than in England—one of those which put the recipient at ease and in *rapport* almost in a moment. We had not been in the studio five minutes before our hostess had yielded to a pressing invitation and brought out a whole pile of prints—not exhibition work, but simply spare copies, in every case of actual professional portraiture, such as she is now doing at the rate of £1 per print, with a minimum of £2.

Mrs. Kasebier at these prices has all the work she can very well do, so that it is clear that there is a strongly appreciative public in New York for the best that modern photography can do. Certainly, such photographs would have little or no sale in London. The prints—some in a low key, some in a high one—were so attuned for some special reason in each case, and not merely haphazard, as some of the less well-informed workers seem to think.

"Now, here is a man," said our hostess, "who had a fine strong face, rather lumpy or knotty, who cannot get a good likeness in the ordinary way at all." The sitter had evidently a lot of color, a big but thin beard, and a high dome-shaped bald head. To realize the "usual thing" of him was easy. He was almost the typical deacon or sidesman in a small provincial town. Mrs. Kasebier took him with a very flat lighting, just sufficient to show the modeling of the features without emphasizing them as if they were one of the raised maps of Palestine of our boyhood. The only true high light was the patch of shirtfront. It saved the picture from being flat; but, nevertheless, left it with all the advantages of flatness.

We could run on in like manner about the others. Dozens and dozens of prints were put before us, each characteristic of the photographer, each the best that she could do, each manifestly catching and conveying the very spirit of the sitter in a way we have seldom seen equalled by anyone—and all these done "in the usual way of business."

We saw the dark room—we wish Mrs. Kasebier a more roomy and pleasant one—we saw two young ladies trimming and mounting prints "in the American style," and each in the way selected for it.

A casual remark of ours about hands brought out half a dozen big sheets of paper on which were mounted in succession, hands and nothing but hands—the hands of a poet, a coquette, Mark Twain, a laborer, a plutocrat, a civilized Indian, a musician, a political economist, a playwright, an actor. "There is far more to be seen in hands than many people think. Look at Mark Twain's hands," said Mrs. Kasebier, "one can see in them alone the enervating effect of European luxury upon the once energetic nervous American. You Europeans have quite spoiled him."

Second sittings, we learned, were not often necessary, nor were the results, as a rule, an improvement. The sitters in nearly every case were satisfied and pleased with the photographs taken at the first. As a rule, the high prices which Mrs. Kasebier asks and gets prevent the work from being distributed broadcast, but for special purposes—for family keepsakes—the baby, the bride, the old grandmother, are recorded by her camera as they really are, in a way which will give the prints enduring interest.

"Now, there is one more request," we said before leaving; and Mrs. Kasebier complied with it, and brought out some boxes of her negatives. It would do those good who talk of "the cult of the spoiled print" just to see a few of them—not for their pictorial merits, but to use them as examples of technical excellence to work up to. We have never seen more beautiful specimens of the capability of the modern dry plate, when intelligently used, to reproduce gradations truthfully than in the dozen or two brought out haphazard by this gifted lady.

But dusk had come on. The studio closed at six, and we had to leave. We were soon in the flare and rush of Fifth Avenue again; and the thought that amongst the brilliant New York society which passed along it there was a public that could appreciate Mrs. Kasebier gave it quite a new luster in our eyes.

Binding Lantern Slides.

BY RICHARD HINES, JR.

EACH lantern slide worker, no doubt, has his own favorite way of binding lantern slides, but as I have tried several and have found the one I propose to describe much the easiest of all of them, I propose to lay it before the readers of THE AMERICAN AMATEUR PHOTOGRAPHER, with the hope that some of them will be led to at least give it a trial.

I cut the slide binding into strips $1\frac{1}{2}$ inches long to encompass the four sides of the slide. This I wet and lay upon the work table, which is covered with several thicknesses of office blotting paper, making a soft, yielding surface. After having fitted the mat and cover glass I take a photo clip and insert the slide and cover glass between its "jaws" to hold them firmly. This clamps the cover glass and slide firmly together and the clip acts as a very convenient handle in the process of binding. Place the side of the slide opposite to the clip down on the binder and press down hard, and equidistant from the edges, which will make the edges of the slide and cover glass sink into the blotting paper and thus ensure perfect adhesion. Without cutting the binder turn the slide and cover glass over on edge, and you will have the binder sticking to two sides of the slide with cover glass, with the clip on the third side. Remove the clip to the fourth side and turn again, which will give you three sides to which the binder has adhered. With thumb and forefinger press down the binder on the first edge to the sides of the slide and cover glass; then with scissors or a sharp knife slit the binding at each corner and press it down. Remove the clip to this bound edge and press the binder on the remaining uncovered edge. Press each of the other three sides down in exactly the same manner as the first, and you have a neatly bound slide with corners that will not rough up from ordinary usage. The edges of the slide and cover glass are to be put on the binder at right angles and then turned till the binder adheres to each of the four sides. Though it takes many words to explain the process it is very simple once you get the hang of it. I find it better than using a holder, as it gives a soft bed on the blotting paper to press the gummed binder well into contact with the edges, and then there is no danger of the holder toppling over at the wrong moment and causing unchristian language.

I have discarded the use of all lantern mats except the Olmstead, which are lined in sixteenths of an inch, so that the slide maker can have any manner of opening which suits his fancy, without being confined to a few conventional sizes. Then another great convenience I have found in my work is a set of metal lantern slide cutouts and cutters which I got from a dealer for a dollar, by means of which the slide maker can cut his own mats out of any paper which suits his fancy. I use a white binder with the above-mentioned mats, which have one face white and the other black, and the finished slides have a very neat appearance. There is no branch of photography that I know anything about where bungling work shows quicker and more plainly than in the making and finishing of lantern slides.

The Development of Bromide Papers.

THE following paper was read before the members of the Croydon (Eng.) Natural History and Scientific Society, at one of their weekly meetings, by J. H. Baldock, F. C. S.:—

I must ask you to remember that gelatino bromide paper and plates are, as far as the emulsion goes, practically the same; that on paper is, as a rule, slower than that on glass, and of course paper cannot be handled and treated in the same way as glass, otherwise marks and stains are very likely to occur. This, of course, is only another way of stating that more care, and especially more cleanliness, must be exercised in one case than the other. In reality a bromide print is very simple and rapidly made, so much so that in, say, half-an-hour a plate can be developed, fixed, and a bromide print made from it; also fixed and dried ready for mounting, should any necessity arise for such rapid work. Not that I, by any means, advocate such speed; I only mention it in order to show its possibilities.

ILLUMINATION

of the developing table is of some importance, and I may say that ruby light is not necessary at all. I never use it myself, but use orange glass or canary fabric, which is, with care, not only quite safe, but gives a very much pleasanter light to work by. All that is necessary is to test the medium used, and see how long and at what distance from the lamp it may be used without light fogging the paper, remembering that as development proceeds the paper becomes less sensitive, and may therefore be brought nearer to the source of light.

EXPOSURE

necessary for bromide paper is, like that for plates, an unknown quantity, but with paper we have fortunately a means of testing the exposure before we proceed to make the print, and this is easily and quickly done. Cut a strip of the same make of paper as is being used, place it on the negative in such a way that as many gradations as possible are covered. I find diagonally generally answers well, and give the strip three exposures, of 5, 10, and 15 seconds, to the same light and at the same distance as you are going to use, shading the strip with a card for the required time, i. e., first exposure to one-third of strip 5 seconds, to next third 5 seconds, to last third 5 seconds; thus the first third will in the end have 15 seconds, the second third 10 seconds, and the last third 5 seconds. Remove the slip, and develop it with normal developer; it is then easy to see which of the three exposures is the correct one, or it may be between either of them. I need hardly point out that, as with plates, so with paper, it is advisable to select one make and stick to it; also to use a constant source of light. The man who is constantly changing about can never do really good work. The distance from the light may be varied to suit the negative, bearing in mind two things, i. e., that a soft negative is most suited for bromide work; and that there is less danger of over-exposure at a distance, say, of 3 feet from the flame

than there would be at, say, 1 foot, in consequence of the well-known law, "The intensity of light is inversely proportional to the square of its distance." Still, a slight over-exposure is advisable in preference to under-exposure, as it can be controlled in development. This brings me, of course, to the subject proper forming the title of this paper, i. e.,

THE DEVELOPMENT OF BROMIDE PAPER,

to which the preceding remarks are only preliminary. I have said that errors of exposure may be rectified, and that to a considerable extent, in the process of development; thus an under-exposed (if not too great), over-exposed, and an unknown exposure may be successfully dealt with. I shall only deal with what may be called slow development, which is most likely to be employed by amateurs like myself, the rapid method being more suitable for professionals, who have a large number of prints to work off, and whose time is more valuable. The paper I generally use is the Ilford Slow Bromide, either rough or smooth, not because it is better than other makes, but simply because I am used to it, and I prefer the slow to the rapid, especially for enlargements, as there is less liability to over-exposure, and more control in development. Then as to developers, it is essential to employ a non-staining one, because although a negative may often be improved in printing quality by a slight yellow stain, this would be quite fatal to a bromide print.

THE DEVELOPER

therefore may be chosen from a large number of agents used for that purpose, such as rodinal, amidol, ortol, metol alone, or preferably combined with hydroquinone, edinol, etc. But as it is manifestly impossible to use all these to-night, I propose to use only one, i. e., rodinal, which is simple, only one solution, and most easy to use. I, however, show you prints on other papers than the one I have named, developed with other developers. Taking, therefore, rodinal, the composition of the developer may be taken generally as follows:—

UNDER-EXPOSURE.		
Rodinal		1 part.
Water	30 to 40 parts.	
CORRECT-EXPOSURE.		
Rodinal		1 part.
Water	25 parts.	
OVER-EXPOSURE.		
Rodinal		1 part.
Water	15 to 20 parts.	

To which a few drops of a 10 per cent. solution of potassium bromide may be added as required, i. e., under-exposure may require none, or at most a drop or two; correct exposure requires, say, two drops; and over-exposure, say, two or three drops, to each 2 oz. of developer. This slows development, thus keeping it more under control, and also preserves the whites of the paper.

On the whole it is not advisable to employ the developer of full strength to commence with, unless indeed you are quite sure of your exposure, and have a number of contact prints to deal with; it is better

and safer to begin with a weak solution, till some detail is obtained on the print, and then to strengthen the developer by the addition of a few drops more of rodinal and a drop or two of bromide, according to the necessities of the case, bearing in mind that rodinal does not require the addition of much bromide. To start with, then, take:—

Rodinal	5 parts or drops.
Bromide	1 part or drop.
Water to	500 parts or drops...

Use this at a temperature of 15 deg. C. = 60 F., and with

CORRECT EXPOSURE

you will have in about three or four minutes an image reminding you of an over-printed platinotype, in which all the details are visible. Pour off the developer, and flood the print with water. Meanwhile, make up your mind what you want the finished print to be, whether a soft grey or rich black. If the former, add to your developer another five parts or drops of rodinal; if the latter, add thirty parts or drops of rodinal, and five parts or drops of bromide. Pour off the water from the print, which has probably gained a little in density, and pour on one or other of these strengthened developers, and continue development till the desired result is obtained, remembering that prints developed with rodinal lose somewhat in fixing, so that the development must be carried far enough to allow for this.

So much for what is called correct exposure, though what exactly the word correct, so frequently used, means, is not easy to define, especially seeing that equally good results may be obtained by suitable development in cases of decided under-exposure and over-exposure. Probably as good a definition as any may be said to be when a normal developer gives good detail and gradation, and cannot be made to give more, however long development may be continued. In cases of

UNDER-EXPOSURE

a modification of the developer is necessary, and to begin with a 2 minim to the ounce of water, without any bromide, may be used, covering the dish, and giving an occasional rocking, till this developer ceases to act; then add 3 minims of rodinal and a drop of bromide, continuing with this till the picture is finished, the object here being to obtain a print full of detail, but without hard contrasts.

OVER-EXPOSURE,

on the contrary, tends to produce a flat picture devoid of contrast, hence another modification of the developer is necessary. Make up a solution containing 2 minims of rodinal, 2 minims of bromide, to the ounce of water, and here note the restraining action of the bromide. The image will be longer in appearing, and also rather flat; add to the developer (1 oz.) 15 to 20 minims more rodinal and 3 or 4 minims more bromide, and continue development, watching the result carefully, till the desired result is obtained. In such ways may errors in exposure, amounting probably to 25 per cent. either way, be compensated for.

I feel quite certain of one thing, i. e., that many workers have got an idea that a bromide print ought to flash up very rapidly. What the

reason for this I do not know, but having watched many people developing these prints, there is no doubt as to the fact. The fallacy of such a method of procedure is obvious, if it is only remembered that, as I stated in the beginning, bromide paper is essentially the same as a bromide plate, and that no one would develop a plate so that the image rushes up all at once, seeing that, in both cases, development would quickly get beyond control, with the almost certain result that plate and paper alike would inevitably be spoiled.

Directions for Silvering Mirrors.

IN a recent issue of the *British Journal of Photography*, Mr. P. Everitt recommends the following method of silvering glass on the front surface for optical purposes:—

Take 2 drams of silver nitrate stock solution (of strength 25 grains to the ounce of distilled water) and convert it to ammonio-nitrate, by adding ammonia drop by drop until the precipitate formed is re-dissolved. Add $3\frac{1}{2}$ oz. of distilled water.

In another measure take 80 drops (approximately 74 minims) of 40 per cent. formalin.

Pour the solution of ammonio-nitrate of silver into the measure containing the formalin, then back into the original measure, and finally into the dish containing the glass to be silvered. This should be done rapidly, and the dish containing the mirror well rocked until the silvering is complete, which may be ascertained by the precipitation of a black, flocculent deposit and the clearing of the solution. The actual process of silvering takes about two minutes.

Those who may wish to use the process should ascertain for each fresh sample of formalin the requisite quantity, as follows: Take 1 oz. of ammonio-nitrate solution and begin to reduce the silver with, say, 20 drops of formalin. If a muddy precipitate be formed, and the process be too slow, add more formalin. If too much formalin be used, the process will be too rapid, but, if the quantity be right, the solution will pass rapidly through shades of rose and violet until the black precipitate is formed and the solution begins to clear. Meanwhile a film of silver will be deposited upon the glass and the sides of the dish.

Cleanliness throughout is of the greatest importance. The vessels in which the solutions are mixed should be well rinsed with a solution of bichromate of potash and sulphuric acid, then washed out three or four times under the tap, and finally with distilled water. For cleansing the glass I recommend well rubbing with cotton wool, first using acid and then ammonia. Polish afterwards with rouge, and rinse under the tap. I found it preferable to dip the glass for a short time in a solution of bichromate of potash, to which a little sulphuric acid was added. The glass was afterwards well rinsed for a minute or two under the tap, flooded with distilled water, and dried with a clean linen cloth. A little absolute alcohol was then rubbed on with a soft linen handkerchief,

which was immediately rolled into a pad and used for well polishing the surface. The cleaning with alcohol was repeated, to avoid any risk of failure.

After the mirror has been silvered, hold it under the tap and allow water to flow over it for about three minutes. Rinse it with distilled water, and stand it up on edge on blotting paper. When it is quite dry take a pad of very soft wash-leather, spread a small quantity of finest optician's rouge on a sheet of clean glass, and well coat the pad with rouge by polishing the sheet of glass. A minute quantity of rouge is sufficient. Afterwards polish the mirror by gently rubbing the surface with the pad, using a circular stroke.

It will be seen that with this process it is unnecessary to suspend the mirror in the silvering solution, as usually recommended. The mirror is laid in the dish, which is a distinct advantage, as the progress of the silvering may be watched until complete. The film also is much more robust than that obtained by the older methods. This may be judged by the fact that I have just taken one of the experimental pieces of glass and applied considerable friction with the finger tip, and have been unable to remove the film. This powerful adherence facilitates the polishing, and speaks well for the durability of the film.

For silvering a 6½-in. circular mirror I used about 20 ounces of solution. A small, well-glazed earthenware pan was used for the silvering bath, and, as the bottom and sides were thickly coated with silver, a considerable economy might be effected by using a flat sheet of plate glass, with sides of matchbox wood coated with pitch. A wall of putty would probably answer well also. The cost of the silvering solution being only a few pence, economies of this kind need only be considered where a large amount of work has to be done. Finally, I may remark that the quantity of formalin used is not in proportion to the amount of silver, but to the amount of water used.

The Latest in Ozotype.

IN THE course of his lecture and demonstration before the Birmingham (Eng.) Photographic Society, Mr. Thomas Manley, the inventor of this method of pigment printing, gave the following "latest" instructions: The paper to be coated should be, by preference, of English rather than foreign manufacture, as all British papers are more carefully and more perfectly sized. Insufficiently sized papers may be improved by the addition of a little fish glue to the sensitizing solution. To coat a 30 in. by 15 in. sheet, pour upon the centre of the paper about two drachms of the special sensitizing solution supplied by the company. This is quickly applied by rubbing, with a circular motion, by a pad of flannel stuffed with cotton-wool. The final surfacing was done with soft "butter muslin," and any markings on the surface occasionally found can be destroyed by rubbing lightly across them. The paper can then be dried rapidly in artificial light.

The most suitable negatives for ozotype printing are those yielding good platinum prints. When the paper has been exposed under the negative in a good light for about three minutes it should be examined, and if the half-tones are visible it should be removed and washed well. The margins should be perfectly white—if at all discolored the addition of a few drops of a 10 per cent. solution of sulphuric acid to the washing water will improve matters.

Two dishes are now placed side by side, one containing clean water, the other the following new acid bath, kept at a temperature of 60 to 70 deg. Fahr. :—

Water	40 ounces.
Sulphuric acid, 10 per cent. sol.....	2 drachms.
Sulphate of iron (granulated)	60 to 80 grains.

First immerse a well-printed picture in the clear water for about 10 seconds, and the pigment plaster in the acid bath for the same time. The print is then transferred to the acid bath and brought in contact with the plaster, the two removed together, lightly squeezeed and placed between blotters to dry.

When sufficient time has expired, the backing of the pigment plaster is removed by soaking in hot water, exactly as in the carbon process, except that the right time for stripping is judged by readiness to slip between the movement of the thumb and forefinger applied to one corner. When developed the print is cleaned in a bath of

Powdered alum	2 ounces.
Water	40 ounces.
Hydrochloric acid	30 minims.

for five minutes, then well rinsed in plain water, hung up to dry, and mounted.

The Third Chicago Salon.

THE Third Chicago Salon, held in the Art Institute, under the auspices of the Chicago Society of Amateur Photographers, has passed into history as having been considerably better, both as regards quantity and quality, than that of any previous year. That only 191 prints were hung out of over 1,400 submitted, goes to prove that the jury of selection were rigid as to the standard of acceptance, and those who were successful in having their work accepted have reason to feel proud of the honor. Of the seventy-nine exhibitors, twenty-six were Chicagoans and the rest scattered from Maine to California. The weird effects which characterized the first Chicago Salon were less in evidence than ever. Ordinary mortals do not seem to catch on to the "feeling" which we are told is necessary to appreciate the impressionist. Rationalism prevailed at the third Chicago Salon and while the general style of the pictures did not run to fuzziness, neither were they extremely sharp, the majority being of a softness that was very charming. Of the pictures which most strongly impressed the observer might be mentioned L. Hamilton Keller's "A Newsboy at Night," a beautiful winter scene;

"Ravvy and Caddy," a charming animal study by Curtis Bell, and "Rachel," an impressive figure study by Annie W. Brigman. Platinum predominated as the printing medium, and there were many carbons and gum prints, some striking portraits being rendered in bright colors by the latter process in which the masses of lights and shadows were cleverly handled.

The photographic Salon is now a popular institution in many of the large cities, and all ambitious amateurs should endeavor to visit at least one every year. They elevate the ideas and lead us into spheres of thought and influence that would not otherwise be ours.

E. J. Hoskin.

Exhibition of the Wyoming Valley Camera Club.

THE Salon and Exhibition of the Wyoming Valley Camera Club, which was held in the Y. M. C. A. Building, Wilkes-Barre, Pa., from January 20th to 24th, was a most pretentious collection of the products of the camera. The loan section, which included some 249 pictures, contained exhibits from some of the most prominent workers in the country, many of the pictures having been sent direct from the Third Chicago Salon, which closed on January 4th. The general exhibit contained 200 pictures, which had passed a jury of selection, and these were divided into six classes in which awards of a blue ribbon and honorable mention was given by a jury composed of Henry Troth, R. Stockton Horner and Charles E. Frick, all of Philadelphia.

The awards in the landscape class were: Blue ribbon to Charles Tracey, of Wyoming; honorable mention to Robert S. Kaufman, W. H. Evans and John H. Derby. Portrait class, blue ribbon to G. W. Leach, Jr., honorable mention, Robert S. Kaufman. Genre class, blue ribbon to Robert S. Kaufman; honorable mention to John H. Derby and Robert S. Kaufman. Botanical class, blue ribbon to Prof. C. O. Thurston, of Kingston. Architectural class, blue ribbon to Edward F. Ryman. The pictures in the marine class were not of sufficient merit to make any awards.

Among the blue ribbon pictures a landscape entitled "Harvest Time," by Charles Tracy, took the honors in that class. The picture is one of those familiar scenes that always have an attraction, that of the farmer harvesting his grain. The choice of sepia in reproducing gave warmth to the picture.

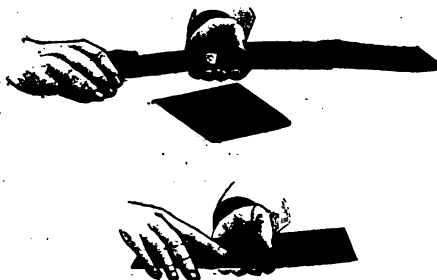
"Winter in its Robe of White," an enlargement in black by Robert S. Kaufman, receiving honorable mention, has as much cold in its winter effect as Mr. Tracey's has in the opposite season. Everything is covered with glistening white and the effect is that of snow, not a chalky whiteness that scenes generally present in photography. We reproduce the picture as a frontispiece, but the reproduction does not do justice to the original. Through the kindness of the secretary we will reproduce several others in a later number which arrived too late for this issue.

Novelties in Apparatus.

MESSRS. MACKENZIE & Co., manufacturing opticians, etc., 17 Douglas street, Glasgow, Scotland, have sent us specifications of a daylight changing plate holder which they have patented in all countries. As will be seen from



the illustration, it consists of a single draw slide holder of the book form pattern which may be fitted to cameras of any make, and one holder is all that is necessary to carry afield to expose any number of plates or cut films. The changing device consists of a double envelope, the inner section composed of light-proof cloth with an outer sheath of black celluloid. These envelopes are not expensive, very durable and only slightly thicker than the plate they hold; two dozen plates may be carried in the same space occupied by three ordinary double holders at a great saving in weight in proportion. The plates or cut films, or some of each, are inserted (in the dark room, of course) between the grooves of the inner sheath, covered with the flap and



slipped into the celluloid case. This sheath may be safely handled in daylight and placed in the holder. In the slide of the holder is a groove which engages with a bar on the envelope flap and as the slide is withdrawn the covering is removed from the plate and again put in position as the slide is pushed back. A strip of velvet on the flap sweeps any dust off the plate and there is no possibility of scratches. Other advantages of the system are risk of double exposed and light struck plates reduced to a minimum. Judging from the favorable reception the device has met with in Great Britain and the number of flattering testimonials it should soon find its way into this country. Messrs. Mackenzie & Co. desire to correspond with manufacturers here who may desire to procure the patent rights or some reliable house who will act as their agents.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y. During January and February to Clifton Springs, N. Y.

1557. A. G. DARSEY.—“A Rocky Glen” is a fairly good subject, but simply worthless from under-exposure. You surely cannot suppose that rocks and trees can be even tolerably represented by perfect blackness.

1558. F. E. WEEKS.—The unnamed print is of a well selected subject that, with a suitable exposure might have been a fine photograph. Exposure and development have been such that only the leaves on which direct light fell are impressed, giving the effect of

points of light scattered all over, with nothing but blackness behind. Such a subject cannot be properly photographed without sufficient exposure to represent shade by something else than dead black.

1559. H. W. D.—“Point on the Stream.” What has been said of the two preceding prints applies equally and if possible more so to this. A sky of perfectly white paper, water nearly as white, with trees silhouetted against the sky, as black as the paper can be

made. Read carefully the article on exposure in our January number.

1560. J. A. LOGAN.—“The Musician.” Your lighting is seriously at fault, the two windows producing crossed effects, and that in front has apparently fogged the whole plate. One window with suitable reflector would give better results. Then the lens is of much too short focus for a portrait this size. Confine the figures to at least half the focus of the lens. To get this size you have had to go so close to the object as to fearfully enlarge the knees and legs of the figure. The exposure should have been at least thrice as long and the pose or way in which the violin and bow are held does not seem natural; at least knowing a little about fiddling we have tried again and again, without naturally assuming this position or arrangement.

1561. W. H. CRAIG.—“High Fall.” We see not only the profile on the top of the fall to which you call our attention, but also the whole figure, the whole fall looking much more like a lady during the days of the “bustle” and “Princess Limp” than falling water. The subject is one of the most difficult with which the photographer has to deal, as it is hardly possible by one exposure and straight development to do equal justice to the frothing fall and its dark rocky surroundings. In this the surroundings are well represented, but the falling water is, as we have said, much more like a white dress badly photographed, that is, without the light and shade essential to hanging drapery, than falling water.

Local reduction with a tuft of cotton moistened with “agua” or other one solution reducer would vastly improve the negative; but to secure the best results on such subjects two exposures and combination printing should be resorted to.

1562. J. HARMANUS FISHER.—“I See a Pool, etc.” A stream in a “freshet” that had carried away a bridge is a very good photograph of the record of fact variety, without, as it is, a trace of pictorial quality, and, to a large extent at least, of purely local value or interest. It is, besides, one of those reflections in which the reflected objects are as well defined as the objects themselves, beautiful in nature but absurd from a pictorial point of view. But, like many others of its kind, it includes a little

gold amongst the mass of dross. A part, $2 \times 1\frac{1}{2}$ inches on the extreme right, if enlarged to, say, three diameters, would make a really fine picture of a cow gazing with amazement at the havoc made by the rushing water and wondering how she could get across to her accustomed pasture. From a technical point of view this, coming as it does amongst such a mass of under-exposed failures, is refreshing and encouraging.

1563. RICHARD HINES, JR., sends a good example of flower photography, a magnolia, but Uncle Sam’s messengers have so broken and otherwise abused it that only by piecing parts together and straightening them out can we guess at it. From the pieces, however, we can judge of the technique, and find it admirable, especially the exceedingly delicate gradation in the light and shade of the blossom itself.

Since writing the above we have received from Mr. Hines another copy of the print noticed under 1563, its transportation not this time entrusted to Uncle Sam’s messengers, but to the U. S. Express, which, although in a *passee partout*, brought it safely. It is, indeed, a fine example of flower photography, in which arrangement and lighting are as nearly perfect as may be. We regard it as a valuable addition to our collection.

1564. J. S. CROCKETT.—“Co’ Bossie,” a pretty “Jersey” and a milkmaid with her pail; the latter evidently calling to another cow at a distance and the former lovingly regarding the pail as if she expected to find something good in it is a charming little picture. While we think the usual oblong square would have been better than the oval, it is so very effective that we hardly like to mention that as a fault, especially as the lights are so massed and contrasted with the darks as to make a beautiful picture out of the simplest material. We congratulate you on the way in which the pretty little cow—a pet she surely is, has been made to play her part, the pose and expression, for expression there certainly is, showing as clearly as possible expectant curiosity. We like the picture very much and should have liked it even better if it had got a slightly longer exposure and a little shorter development so as to have made the darks a little lighter and the lights a shade darker.

1565. W. H. BLACAR.—“A Frosty Morning” is a fine subject from probably the best view point, but you have not yet overcome your besetting sin—under-exposure. Why do so many continue to under-expose in the face of the fact that from a plate under-exposed to within say 50 per cent. of what would be correct, it is impossible to develop even a passable negative, while one really good may be produced on a plate that has received up to and beyond 20, some authorities say even 20,000 times the normal?

We write with a window looking into the Clifton Springs park in just such a state as is intended to be represented by this, but neither the shadows on the banks of the sulphur stream or even under the arch, nor the trunks of the trees are anything like so black as in this, nor is the leaden-hued sky nearly so white, and we certainly should not expect to get anything like true values by an exposure of a third of a second with *f*/8. With an exposure sufficient to lighten the shadows this would have been a very pretty winter scene.

1566. W. A. ROWLEY.—“Sheep” is one of the most hackneyed of subjects, and while this is technically a good

photograph it has absolutely nothing else to recommend it. A lot of sheep bunched together, apparently being “salted,” or in just such a bunch as may be produced by the sprinkling of a handful of salt on the pasture, has nothing of the pictorial about it. Please attend to the heading of this column.

1567. A. GILCHRIST.—“The Lucky Pool.” Your friends either know little of photography and less about art, or they give praise to what they know does not deserve it. A mass of white that we suppose to represent water only because of the boy holding a fishing rod over it; a larger mass equally white doing duty for the sky, and all the rest detailless masses of black is simply a waste of material.

1568. RALPH CRAIG.—“Winter” is over-developed to an extent that has represented snow by giving only an unbroken mass of white paper, and so badly focused that what may have been a homestead is simply an unguessible grey mass. With suitable development and properly focused and especially with a trodden path up to what is possibly meant for a figure it might have been a fairly good picture.

Our Table.

Books for reviews and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y. During January and February to Clifton Springs, N. Y.

THE *Photo-Miniature* for November tells, and tells in its usual satisfactory style, how to color photographs; and if we did not know better the selection of such a subject would certainly have led us to believe that the editor or publishers had got pretty near the end of their tether in their search for subjects worthy of inclusion in the fourth volume of their always interesting little magazine.

Personally we do not care for colored photographs, and have never seen one that we should not have liked much better without the color. We have said so in our pages often, and we say it here again, but having read the monograph through we think it only fair to add that if there are any of our

readers that think differently or who would like to be taught to think differently, they cannot do better than take it as a teacher.

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CAMERA WORK, the first number of which reached us just as our January number was going to press, is not a whit behind our expectations, which, knowing Mr. Stieglitz as we do, were pretty high. As was to be expected, and as intimated in the forewords, its dominating feature is and will continue to be the pictorial, the lion's share in this number being given to Gertrude Kasebier, six of the pictures being from her studio. They are all more or less well known, but there are

few picture lovers who will not be glad to add them to their collections. Not less interesting is Stieglitz's "Hand of Man," in which that king of pictorial photographers has made a charming picture with the most prosaic material; while as an example of the beauty of repetition with variation, and as a study in natural history Dugmore's four birds on a branch is a never ending source of delight.

The reading matter also deserves a word of praise. C. H. Caffin and Frances B. Johnston write appreciatively of Kasebier's work; Will A. Cadby interests us with a chat on the tenth exhibition of the Linked Ring, and the American's share therein is comfortably shown by the editors. Sadakichi Hartmann, now under, we presume, his right name, Sidney Allan, holds forth on the Japanese success with "repetition with slight variation," and incidentally tramps on the toes of those who continually strive after originality, saying amongst many equally strong statements, "The craze for originality is really the curse of our art, as it leads nearly always to conventionalism and mannerism."

Eva Watson-Schutze writes about signatures in a way that should make some of our professional brethren ashamed of the way in which they make their signatures sprawl not only across the mounts but often on the prints themselves, and C. H. Caffin reviews the question of the admission of photographs into the Art Building at the St. Louis Exposition, pointing

out, as we but so few others have done, how slight is the chance of such admission.

Other subjects are "Faking," by Steichen; "Lessons from Old Masters," by O. W. Beck; "Lighting in Bird Photography," by R. Dugmore; "The Pursuit of the Pictorial Ideal," by J. F. Keiley, etc., etc.

Camera Work has made an excellent beginning, and to the considerable number of our readers who through our notices of its predecessor subscribed to *Camera Notes* we say all that we were wont to say of it applies not only equally but decidedly more so to its successor.

* * *

COLOPLATIN MATT PAPER.—A sample of this paper comes from the Coloplatin Company of America, Newton, N. J., from which we have made some exquisitely beautiful prints. It is a printing out paper, apparently collodion, that prints rapidly and tones easily either with gold or platinum, or in the combined bath which we have long employed and recommended, and the surface of the finished print leaves absolutely nothing to be desired. We know that there is in some quarters a prejudice against collodion paper, mainly because of a tendency to curl in the water, but, if the directions are closely followed, the coloplatin lies perfectly flat throughout all the operations. We could not wish for an easier managed printing out paper, or one the finished results on which are more artistically beautiful.

Lantern Slide Competition.

We have had so much favorable comment on our old prize set of lantern slides from subscribers and others that it is our intention to inaugurate a new competition in which we invite all our readers to participate. Our old set has traveled into every State in the Union, and has given pleasure to thousands. The prize set is at the disposal of any reader of this magazine who will pay express charges one way and agree not to keep the slides over one week. It is the general desire to obtain a new set. Many new workers have entered the field and we trust that

they will give early and generous response to the call, keeping in mind that the standard of acceptance is high and observing the following rules:

1. All slides must be $3\frac{3}{4} \times 4$ inches and must be bound and matted in the regular way, with the title label on the right hand end of the slide when looking at the picture in its natural position and the thumb label on the lower left hand corner.

2. Slides receiving awards will become the property of the AMERICAN AMATEUR PHOTOGRAPHER. All others will be returned to the senders.

3. The original negative as well as the slide must be the work of the competitor.

4. No competitor can take more than one prize in any one class.

5. No entry form is required, but a list should be sent with each set and declaration made thereon that the negative and slide is the sole work of the competitor. A short description should also be given of any specially interesting or historical subject for use when the slides are being exhibited.

6. There will be six classes. Entry may be made for one or all, but each competitor must send six slides for each class in which he competes.

CLASSES.

I. Genre and Figure Studies (studio work debarred).

II. Landscape (with or without figures).

III. Instantaneous Work (objects in motion).

IV. Architecture (interior and exterior).

V. Botanical subjects and flower studies.

VI. Marines and cloud effects.

PRIZES IN EACH CLASS.

First Prize—Silver Medal.

Second Prize—Bronze Medal.

Third Prize—Certificate of Merit.

Any or all prizes may be withheld at the discretion of the Board of Judges if the entries are not of sufficient merit.

The judging will be done on the screen with the electric light by a competent Board of Judges, to be announced later and their decisions will be published in the succeeding number of the AMERICAN AMATEUR PHOTOGRAPHER.

All entries must be sent prepaid to the office of the AMERICAN AMATEUR PHOTOGRAPHER, 361 Broadway, by April 15th, 1903.

Society News.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Tioga Centre, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest to our readers.

Camera Club of New York.

The first function of the month of January was on the 6th, when Mr. Malcolm Stuart, a member of the club, gave a talk on "Bicycling Through Belgium, North France and Brittany," illustrated by slides from negatives made on the trip. Mr. Stuart found the inhabitants of Brittany a curious sort of people, having a language of their own and not speaking French. He obtained many interesting pictures and illustrated the remarkable stones resembling Stone Henge in England, found in many portions of Brittany. The next event was the annual smoking concert on January 10th, under the direction of a special committee, Messrs Abel and Darling. There was a very large attendance and the amusement afforded was of a very interesting character. The regular monthly meeting of the club occurred on January

13th, at which President Crosby presided. Routine business was about all that was done. Mr. Murphy for the Committee on Lectures, announced that Mr. Frank La Manna, of Brooklyn, would give a talk, illustrated by his slides, on February 13th. A special exhibition of slides representing the work of members of the club for the benefit of the club was decided upon.

Announcement was made of the award of the president's cup for the best picture in the members' portrait and genre competition by the judges, Messrs. J. M. Tallman, of Brooklyn; H. P. Herbert, of Orange, N. Y.; C. R. Pancoast, of Philadelphia, Pa., to Eduard J. Steichen. The picture was that of a sculptor seated beside a column looking up towards a massive female figure, apparently bending over and looking down upon him. It was difficult to decide just what was intended to be conveyed. The exhibit as a

whole could not be considered much of a success.

After the adjournment of the meeting a demonstration of "Cyco" paper was given in the work rooms, when exposures were made from negatives and developed. The general facts given were that the paper was somewhat slower than Velox and for this reason was more amenable to manipulation and more easily watched as to when the right degree of development had been attained. In other words, there is more latitude both as to exposure and development. The examples shown developed out very clear and uniform, with good brilliancy.

On Tuesday evening, January 27th, W. I. Scandlin lectured on "New York through the Camera Fifty Years Ago," exhibiting paper negatives made by the late Victor E. Prevost, which he had discovered. Historically it was most interesting. On Saturday evening, January 31st, the sixth annual dinner of the club was held at the Athletic Club, Fifty-ninth street and Sixth avenue, this city, under the direction of the special committee, Messrs. William J. Cassard and J. Edgar Bull, and was as usual a most entertaining and successful affair.

From January 12th to 30th a most interesting exhibit of some fifty-six pictures, the work of Alvin Langdon Coburn, Fellow of the Photo Secession, adorned the walls of the club.

Amateur Photographers' Club of New York.

The Amateur Photographers' Club has secured rooms at No. 310 West Fifty-third street, New York. Visitors will be welcomed at next regular meeting, Tuesday, February 9, at 8 p. m.

American Lantern Slide Interchange.

During the month of January nearly all the new sets of slides for 1903 were put into circulation.

There have been received two new foreign sets of slides, one from the Photographic Society of the north of France, of one hundred slides illustrating the Paris Exposition of 1900, and the other from the Amsterdam Amateur Photographic Society of Holland, through Mr. George Peck, of Amsterdam, of sixty slides illustrating scenery in Holland. It is probable these sets

will be combined in one and circulated among the American and Canadian clubs. Concerning the selected set of American slides circulating abroad, Mr. Peck writes: "We have much enjoyed the slides which you sent and hope you will see your way to let us have another collection. The slides were highly appreciated by the members of our society, as well as by those of other clubs where they have been shown."

Clubs or societies desiring information concerning the Interchange with a view to membership should address Mr. F. C. Beach, 361 Broadway, New York.

Wyoming Valley Camera Club.

The Wyoming Valley Camera Club at its annual meeting elected the following officers for the ensuing year: President, Geo. W. Leach, Jr.; vice-president, Prof. C. O. Thurston; secretary, F. J. Spearling; financial secretary, Frank Hendershat; corresponding secretary, R. S. Kaufman; treasurer, W. H. Evans. The annual club exhibition was January 20th to 25th.

Fourth Annual Salon of the Colorado Camera Club.

The fourth annual salon of the Colorado Camera Club will be held at the club rooms in the Appel building, 1230 Sixteenth street, Denver, Colorado, March 23 to 28, 1903.

This will be the first print exhibition given in the new club rooms, which are acknowledged to be the most commodious and best appointed of any camera club quarters in the West, and it is the expectation that the pictures shown in this salon will far excel in artistic merit those exhibited in former years.

All photographers are cordially invited to submit pictures for entry in this exhibition under the following conditions:

No prizes are offered, and no charge for wall space will be made. Each person forwarding pictures will be furnished a copy of the catalogue issued by the Colorado Camera Club, which will be official notification of acceptance or rejection of the prints submitted to the Jury of Selection.

All pictures submitted must be separately framed, with or without glass.

The title of each picture and the exhibitor's name and address must be plainly written on the label provided, which must be attached by the exhibitor to the back of the picture. Nothing may appear on the front except exhibitor's name or initials.

Any number of pictures may be submitted, but not more than ten by one exhibitor will be hung.

No accepted pictures may be removed before the close of the exhibition.

The club shall receive as commission fifteen per cent. of the price of any pictures sold from its walls during the exhibition.

It is understood that, unless forbidden by the exhibitor, the Colorado Camera Club shall have the right to reproduce any accepted picture in the official catalogue or in such other publications as may be deemed suitable, proper credit being given to the exhibitor.

The Jury of Selection shall be composed of the following artists and art critics: Mr. Charles M. Carter, Mr. Charles Partridge Adams, Mr. Willis A. Marean, Mr. William H. Smiley, Mr. R. L. Boutwell.

The management will use reasonable care to protect the pictures in its charge, but can not be responsible for any loss or damage that may occur.

All pictures must be forwarded at owner's risk, carriage prepaid, and delivered not later than March 5, 1903. Return charges must be collected by carrier.

Address all communications and pictures to George L. Beam, secretary Colorado Camera Club, 400 Appel building, Denver, Colo.

Photographic Club of Baltimore City.

This flourishing club offered last year \$75 in cash prizes to stimulate interest in amateur photography in their section of the country. From December 9th to 13th the entries were on exhibition on the walls of the club rooms, together with a number of choice exhibits loaned by various workers. The Exhibition Committee express themselves as being well satisfied with the interest displayed in the exhibition, which will no doubt be made an annual function. The Baltimore Club occupies commodious quarters at 870 Linden

avenue and is well equipped with apparatus. It has accommodations for a limited number of new members and photographers who reside in the vicinity will be furnished with full information on application to the secretary, Mr. Jas. W. Bowers, Jr.

Akron Camera Club.

The subject for the evening at a recent meeting of the club was the use of uranium as a toning agent.

The experiments were under the direction of F. B. Hargett and E. J. Hoskin. The following formula had been made up and was used to show the effect on various brands of paper:

A.

Uranium nitrate 10 grains.
Glacial acetic acid..... 1 dram.
Water to 5 oz.

B.

Potassium ferricyanide 10 grains.
Glacial acetic acid..... 1 dram.
Water to 5 oz.

Mix equal parts A and B just before use.

Mr. Hoskin conducted a few experiments with various developing papers, including velox, rotograph, rotox, and lumen showing how the paper should be adopted to the printing quality of the negative. The prints thus obtained were washed thoroughly and transferred to the toning bath. The effect of the uranium was very different on the various brands of paper used, some reaching a deep red by the time others were a chocolate brown.

A number of weak lantern slides were placed in the toning bath and came out a rich warm tone and intensified to good density, making very pleasant slides of what would otherwise been good only for cover glasses.

A few platinum prints were thrown in the toning bath and were apparently unchanged at the end of half an hour, whereas the bromide prints toned in a few minutes. The reason for this is probably the weak state of the bath. There being but ten grains of uranium to ten ounces of toning solution to begin with and several silver prints had already been toned. However, the lantern slides were toned after the platinum prints had been removed, thus showing that platinum requires a much stronger bath than silver. E. J. H.

Answers to Correspondents.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Tiogo Centre, N. Y. During January and February to Clifton Springs, N. Y.

J. G. RICHARDSON.—For a “hardening solution of which formalin is the chief ingredient” no formula is needed; nothing but the addition of water to the commercial article, and the strength may be anything between, say, 2 and 10 per cent. Carry the commercial formalin on your tour, and when you want a hardening solution for plates or films add from 30 to 60 minims of it to each ounce of water.

Another hardening solution which is said to be equally as good may be made as follows: Add ammonia to a 10 per cent. solution of chrome alum till it becomes turbid; then add an equal volume of a 10 per cent. solution of ordinary alum. Bring to a boil, and when it is cold, filter. It may be used over and over again.

“Metol-hydro” developer powders may be made as follows: A. Metol, 6 grains; hydroquinone, 8 grains; sodium sulphite (crystals), 50 grains; potassium bromide, 3 grains. B. Sodium carbonate, 60 grains. A and B may be wrapped in separate paraffin or other waterproof papers, and the two in another piece of like paper, with directions to dissolve in four ounces of water. The powders will keep longer if in a glass tube, but A and B must be separated by a diaphragm of cardboard or other suitable material.

HARRY SIME.—The too dark carbon print may be reduced by immersion in a solution of chlorinated—not chloride as you say—lime, the ordinary “bleaching powder,” but you will be nearer your mark if you throw it away and print another. We find Wynne’s print meter a great help in carbon printing, and have its time marked on all our negatives in such a way that under almost any condition of light we can expose with perfect certainty.

F. M. NEIKIRK.—Watkins’ “time” development has been fully explained and several and briefer notices have ap-

peared in many of our back numbers, but we are at present too far from home to give you the dates. You will, however, find all the information you seek in the article on development in this number.

W. H. BLACAR.—You are right in supposing that we “are satisfied that the results (the action of the developing machine) are perfect or you would have qualified your statement somewhat,” *perfect* being taken in the colloquial sense in which it is, under such circumstances, generally employed; but wrong in believing that we “practically say that they (the exposed films) all, under or over-exposed, all given the same development, all will come out at their best.”

In our notice of the developing machine to which you refer you have failed to catch the qualification introduced into the second paragraph, the employment of a reliable exposure meter, thereby implying practically correct exposure. While it is true that by “tinkering with development” plates or films under-exposed to a limited extent, or over-exposed to an extent almost unlimited may be made to give passably good negatives, it is a fact beyond peradventure that practically correct exposures may be developed without any “tinkering,” or by means that are merely mechanical.

There is therefore no contradiction between what we have said of the development of correct exposures, and what Watchman, in the paragraph to which you refer, regarding exposures that are known to be very much under-exposed. We certainly would not advise you to develop “all your plates in the same developer and for the same length of time, *without regard to exposure.*” But surely you are too much of an experienced photographer to disregard exposure, which is the keynote, the alpha and omega for technical excellence.

P.—(1) We cannot say where "the best" sodium sulphite in crystals may be got, but have rarely come across any that was not good enough. (2) Theoretically it should be neutral, but is generally slightly alkaline; and when old, or kept insufficiently corked, is apt to be contaminated with sulphate. (3) Most of the acids, both organic and inorganic, have been used as preservatives of pyro in solution, but we prefer potassium metabisulphate; and generally in about half the weight of the pyro. (4) Pyro, and everything else employed in photography, is sold by avoirdupoise weight, the ounce of 437.5 grains. (5) We have not written on the photographing of snow crystals, and are too far from home to look up articles that have appeared in some of our contemporaries. We should be glad of an article on the subject by one who could tell our readers all about it.

Please, in any future communication, attend to the heading of this column, and sign your name. While willing to reply to initials, we require for our own satisfaction the names of our correspondents.

FLORA L. SPAULDING.—By listing the lens as "5 + 7" the optician does not mean to imply more than that it will give good definition over a plate of that size; and as it has a focal length of only 7 inches it will not give a perspective that will appear to be correct on a plate larger than 4x5. Dallmeyer has repeatedly said the lens should not be shorter than the diagonal of the plate; but we have always insisted that once and a half its longest way is very decidedly better.

R. T. STUART.—The yellow stain arises, not from too short washing but insufficient fixing. Your dealer is wrong in saying that a negative is fixed as soon as the "cloudy creamy" appearance has gone. If removed from the fixing solution at that stage the gelatine film contains a salt of hypo and silver that no amount of washing will remove, and which, on exposure to light will become yellow. To make sure that the negatives are properly fixed, they should be left in the fixing bath after the unaltered silver bromide disappears, for at least half as long as it took to disappear. You may take it for granted that prints washed in

eight or ten changes of water will be sufficiently free from the hypo salts. We have not the blessing of running water, and always employ two trays, removing the prints, one by one, from the one to the other, allowing each to drain a few seconds, and have never lost a print from insufficient washing.

R. WARBURG.—The lens is a "triplet," introduced by Ross long ago, and obsolete almost as long. It is good for copying, but would now be considered very slow. It is of little commercial value, and an up to date photographer would consider it dear at any price.

T. WHARTON.—Orthochromatic, isochromatic, and panchromatic are, in this country, used indiscriminately, and all mean the same thing, plates more or less color sensitive. According to Baron Hübl, however, the first implies only a plate by which all the colors may be reproduced in their relative luminosities, aided, of course, by suitable color filters; the second should mean a film equally sensitive to all the colors; and the third also sensitive, but not necessarily equally so, to all.

C. LUMSDEN.—Sell as many copies as you can; the selling of a thousand will not make you the less of an amateur nor be an interference with, the business of the professional referred to beyond what is fair competition. We have only one word of advice to give. If your picture is as you say, show your confidence in your opinion by charging a little more than he does for the same subject and size. Don't let him say that you are a price-cutter.

F. R. QUISBY.—The 8¼ in. lens is not suitable for "home" or any other portraiture on plates larger than 4x5, and the "patent portrait lens which fits on the hood" is at best an unsatisfactory compromise that would make matters worse. Keeping to the 4x5 plate, however, lighting from only one window and with a suitable reflector, you should, after sufficient study, get almost any kind of portrait you desire. If you must employ the larger plate, then use the back lens, although we fear your camera with a draw of 17 inches will prove too short. The result in either case will depend mainly on the lighting; but if you do not succeed quite to your liking and will send us samples of the results we may be able to help you.



PORTRAIT

Appleton & Co., New York,

THE
AMERICAN AMATEUR PHOTOGRAPHER.

VOL. XV.

MARCH, 1903.

NO. 3.

Fault-Findings.



No. 1580.

"FROST."

C. H. Brooks.

M R. A. W. ECKHARDT sends another of the letters that we like; letters that tell us of supposed faults, and as there may be others who think as he does, it gives us the opportunity of confessing and promising to amend our ways, or of showing him and them the mistakes into which they have fallen.

This letter, however, is too long for reproduction and he must be satisfied with the following summary of what he considers faults.

1st. Why do we give formulae for developing solutions in grains, instead of in stock solutions "as the plate makers do"? We think every photographer should know just what is in his solutions, not only the material but the quantities per ounce thereof, and the photographer must be dense indeed who cannot make stock solutions from such formulae.

2nd. When we bring out something new we do not give details sufficient, if something goes wrong, to prevent the amateur from being "stuck." We are not nearly clever enough to foresee everything that may go wrong with the thousands of our less experienced readers, and if we were, it would take more than a whole number of the magazine to suggest the cause and cure. Besides, such a cure-all would deprive most amateurs of their greatest pleasure in the work, overcoming of difficulties.

3rd. Our insistence on sufficient exposures—he calls it *long* exposures—has caused him to over-expose to an extent that has lost him many subjects that he cannot get again. "Amateurs," he says, "do not under-

expose because they do not know better, but because it is harder to develop an over-exposed than an under-exposed plate." If he had been a careful reader of the magazine and an observant experimenter he would know that the reverse is the fact. A plate that has received much under-exposure cannot be developed at all, while there is hardly a limit to over-exposure. Plates exposed, as we have recently shown, a hundred times that which would have been correct, can be lost only by those who do not know how to develop them; and all we insist on is exposure for the shadows which even he admits to be correct.

4th. And this is worst of all. He tried the making of glossy blue prints by the method recommended by Mr. B. C. Roloff in our January, 1902 number, and failed, a result that his previous questions would lead us to expect. In the first place we are not responsible for everything that our contributors may say or recommend, and if editors generally were to blue pencil everything with which they did not altogether agree, or that they had not an experimental acquaintance with, there would be a heavy drag on progress. But, as it happens, we are in a position to say that there is not the slightest difficulty in carrying out the method in question; that it is so simple and certain that it fairly puzzles us to see how our correspondent, if he followed Roloff's instructions, made the mess of which he complains.

5th and last gives perhaps a key to its predecessors. It is that we give too much attention to the theory and too little to the practice of the art; a clear indication that he is not, in the true sense of the word an *amateur* photographer; and that he has not yet learned that the more he knows of the *why* as well as the *how* the better able he will be to overcome the difficulties as they occur.

We may add, in reference to charge 4th, that while we are not responsible for all that our correspondents write, readers, especially those whose knowledge of the art is as limited as is that of Mr. Eckhardt, may take it for granted that when they fail in the methods or formulae that we admit without remark the fault lies with them rather than with the author of the article.

THOSE of our readers who are interested in lantern slides will please remember that the time for entries in our medal competition is drawing near. Several workers have notified us that they will send sets and we want to hear from others. We hope to have the prize set this year excel any other set of slides. Full particulars in our January and February numbers.

Special Subject Series.—III.

Fixing.

By DR. JOHN NICOL.

"FIXING," like many other terms in photography, is really a misnomer, as instead of making permanent something that is desirable, as the word would seem to imply, it is in reality the removal of something that if left would seriously impair the negative.

It has been shown that as the result of exposure the silver bromide, Ag Br, probably loses half its bromine, becoming converted into silver



"CHRYSANTHEMUMS."

Negative on Carbutt's Panchromatic Plate, without color screen. Print on Vinco Gravura.

sub-bromide, Ag₂ Br. the quantity so affected depending on the intensity of the light or duration of its action, and that by development is understood the removal of the remaining bromine, leaving the silver practically in its metallic form *in situ*.

But the quality of silver bromide so reduced bears a very small proportion to that originally on the plate; very small both in surface measurement, and in film depth, only the highest of high lights going quite through to the glass, while in the shadows and darker darks little more than the surface is touched; so that in the developed film of an average negative there remains at least 75 per cent. of unaffected silver bromide.

By fixing then, is understood the removal of this unacted on and unaffected silver bromide; sodium hyposulphite or theosulphate, frequently contracted to "hypo," being the agent almost universally employed. During the reign of wet collodion, and wherever it is still in use, potassium cyanide was and is still employed, and it had some advantages; but it is dangerously poisonous and had to be kept and used with such caution that its exclusion from the *materia photographica* was a thing to be desired.

While fixing is probably the simplest of all photographic operations it has, like most others, right and wrong ways, and some of the latter have led, and are still leading to perhaps more failures than anything else. One common mistake is to employ too strong solutions, which lead to imperfect fixation, the silver bromide being less soluble in, say, one of 50 per cent. than in one of only 25 per cent. The latter, four ounces to the pint of 16 ounces, is, for plates and films, probably about the best; while for prints on silver paper, whether printing out or developing, one to sixteen will be found sufficiently strong.

But by far the most common error is insufficient fixing; the removal of the negative or the print from the solution before it has completely done its work. The process of fixing includes two operations; first the formation of a double salt of hypo and silver by the union of the creamy yellowish white silver bromide with a portion of the hypo at which stage the plate is transparent and has the appearance of being fixed. This double salt with which the gelatine film is fully charged is insoluble in water and if the plate be in that state removed from the solution no amount of washing will remove it, and although invisible now it will, on exposure to light appear as a yellow stain, and so far as I know, a stain that cannot be removed by anything that will not at the same time destroy the image.

But although this double salt first formed is insoluble in water it is readily soluble in excess of hypo, or more correctly, with that excess another salt is formed that water will readily remove, hence the necessity for leaving the plate in the fixing solution or "bath" as it is more frequently called, for a considerable time after the disappearance of the whole of the creamy white silver bromide. This is sometimes said to be half as long as it took for the silver bromide to disappear; but as safety lies in certainty, and as the bath will not injure the image, it is better to give the second stage as much time as was taken by the first; *i. e.*, if fifteen minutes elapse between the placing of the developed plate in the fixing bath and the complete disappearance of the silver bromide; and with some plates and some varieties of gelatine it is even longer; it is advisable to leave it there for another fifteen minutes.

While, on the whole, a plain solution of hypo is sufficient for all fixing



No. 1579.

"BUSY TIMES."

W. J. Burgess, Jr.

purposes, several additions have from time to time been recommended; some with a view to harden the film and so prevent the frilling of the gelatine; some to prevent or remove stains from the film, and some to keep the solution itself from turning dark where it was employed over and over again.

The most harmful and at the same time most frequently recommended of those additions is common alum which decomposes some of the hypo, often to such an extent as to leave it in insufficient quantity to dissolve the first formed insoluble salt, liberating sulphur and forming injurious compounds that interfere with the fixing and lead to degradation of the negative or print. Common alum should never be an ingredient of the fixing bath.

But while hypo is almost ludicrously cheap, and true economy, taking into account the results, is found in using a fresh solution for every batch of plates, there are many who prefer to use a bath over and over again, probably less for economical reasons than to save the little trouble of weighing and measuring, and for them one or other of the so-called "acid" baths is to be preferred. Nor does it matter very much which so long as the acid liberated in its preparation is the sulphurous; not, as in the case of common alum, the sulphuric.

One of the simplest and at the same time fairly efficient, is where a solution of sodium sulphite to which sufficient acid sulphuric has been added to liberate the desired acid sulphurous is added to the plain solution of hypo; but probably the best, because it is a hardener as well as that it keeps clear to the last, is that known as Carbutt's, the formula for which is printed along with his instructions for the manipulation of his plates and films, and is something like the following:

Hypo	5	ounces.
Sodium sulphite	1	ounce.
Chrome alum	$\frac{1}{2}$	ounce.
Acid sulphuric	30	minims.
Water	20	ounces.

Dissolve the hypo in ten ounces of the water, the sulphite in four, the alum in four, and the acid in the remaining two ounces. Add the acid solution to that of the sulphite, and both it and the alum solution to the solution of hypo, the result being a bright green bath that need not be filtered and that may be used over and over again.

Fixing completed, it only remains to thoroughly wash the negative. For that purpose nothing is better than running water and the plates vertically placed in one or other of the various forms of washing box. From half an hour to an hour is sufficient to remove the last traces of



**"AT THE
SPRING."**

Blue Ribbon, Wilkesbarre Exhibition.
R. S. Kaufman.

hypo, or to so wash it that the negative, especially when varnished, may be expected to be practically permanent. In the absence of running water the negatives may be laid face up in trays, as many as can be packed in each, or packed, as for running water, in the washing box, and subjected to eight or ten changes with from five to ten minutes between each change, at the end of which the operator may with perfect confidence rear them up to dry; after swabbing the surfaces with a large tuft of cotton.



From Kodak Portfolio.

"AN EARLY SNOW FALL."

Dr. C. Geo. Bull.

The method of drying is of some importance. The necessary conditions are that they should be in a current of dry air free from dust, and that neither temperature nor hygroscopic state of that air should vary materially from the beginning to the end of the operation. When the ordinary drying racks are employed there should be a sufficient distance between each pair of plates to allow for free circulation. Better perhaps than the rack is a series of nails driven into the wall or any convenient board, each pair at a suitable distance apart for the lower corner of the plate to rest between them, with its opposite corner resting on the wall or board, with the face or film side out, and with a shelf or other convenient cover a foot or two above to prevent dust falling on them. Plates so

placed will dry in a few hours, and equally all over ; whereas, when different parts of a negative dry at different rates of speed there is almost a certainty of their having "drying marks," lines of different densities which generally show in the print.

In my next I shall deal with improving the negative.



Cartridge Kodak Picture.
From Kodak Portfolio.

"WET PAVEMENTS."

Wm. C. Motteram.

Edinol, an Ideal Developer for Bromide Paper.

BY T. THORNE BAKER.

UNTIL the introduction of amidol we were somewhat at a loss to find a suitable substitute for the old-fashioned ferrous-oxalate developer—which would hold its own for all time were it not so messy—for simplicity can hardly be coupled with the elaborate and lengthy formula invariably associated with metol-hydroquinone. We do not for one moment disclaim the advantages and simplicity which belong to amidol, but the



From Kodak Portfolio,

"TIRED OUT."

Col. Horace M. Seaman.

new developing agent, edinol, is certainly a formidable rival, and one which we personally have been led to adopt after a few experiments, in the course of which its behavior has seemed to leave nothing to be desired.

All this with reference to bromide and "gas-light" papers and the so-called chloro-bromide papers. It is hardly necessary to add, furthermore, that edinol may also be used with great success for lantern-slide work.

Whichever of these operations be under consideration, the one thing to aim at primarily is a one-solution developer. The great maxim in bromide and kindred work is, "Always get your exposure correct." Bad results, chiefly in the form of veiled whites or greenish-blacks, are too

frequently put down to the developer or the paper itself. But in almost every case it is owing to not gauging exposure correctly that these failures are involved. Before discussing edinol as the developer, then, we must



Cartridge Kodak.

"PORTRAIT."

Eduard Steichen.

assume that the correct exposure has been found, by trial slips or some other method, with the desirable result that a one-solution developer prepared for properly exposed paper may be used without additions of any kind to it.



From Kodak Portfolio.

"THE DESERT."

F. W. Sisson,

Edinol is able to give beautiful platinum black effects, and seems to have the power to draw from almost any bromide paper all the goodness it is possible to extract. Its advantages over ferrous-oxalate are manifold, as no clearing bath is neces-



Wm. C. Lee.

"SNOW SHOEING."



Oscar Maurer.

"AMONG THE HILLS."

iron bath, but with edinol a long immersion causes no yellowish stains such as are liable with the latter.

An unusually large proportion of bromide may with safety be used, and thus we can by lengthening development produce the harsh chalky

sary before or after fixing, and its preparation is of course, infinitely simpler. The rich blacks, velvety in appearance, and clear high-lights that it can produce are perhaps only equalled by those obtained with the



"INDIAN BASKET MAKER," Mrs. Myra A. Wiggins.

Folding Pocket Kodak and Brownie Pictures from Kodak Portfolio.

pictures characteristic of hydroquinone. This feature becomes an important one when printing from a flat negative, where a little more contrast is desired in the picture than would result from normal development.

Although somewhat slower in action than amidol or metol-hydroquinone, there is no risk of fogging the whites or producing a veil over the picture. We have had prints in the developer as long as fifteen min-



Kodak.

"GOING TO MILK."

Miss J. G. Cochrane.

utes, and no discoloration has been observed, except with "gas-light" paper, which, as is well known, *must* be developed up sharply.

For this very reason we give below two separate formulae, one of which is recommended for slow contact papers, such as Velox, Vinco, Platina, etc., the other being preferable for bromide work:

A.—FOR "GAS-LIGHT" PAPERS.

Water	100 cc.	or	4 ozs.
Acetone sulphite	1 gm.	or	15 grs.
Edinol	1 gm.	or	15 grs.
Sod. carbonate (crystallized).....	6 gms.	or	90 grs.

B.—FOR FAST BROMIDE PAPERS.

Water	100 cc. or 4 ozs.
Acetone sulphite	1.5 gm. or 22 grs.
Edinol	1 gm. or 15 grs.
Sod. carbonate (crystallized).....	7 gms. or 105 grs.
Pot. bromide (10 per cent. solution).....	5 drops.

It will be noticed that in both the above formulae acetone sulphite is used, and this, we must confess, seems to us a much more familiar reagent than sodium sulphite, as after it has once been on the dark-room shelf it invariably has a permanent "stand" there. It keeps the developer clear, and is a preservative that is far superior to metabisulphite, or sulphite of soda, if we are to believe the many authorities who have spontaneously reported on it. Care must, however, be taken not to use it in excess, as it acts as a restrainer, and too much of it generally leads to green tones. For those who desire a bath without acetone sulphite, we can recommend the following:

Water	100 cc. or 4 ozs.
Sod. sulphite	8 gms. or 120 grs.
Edinol	1 gm. or 15 grs.
Sod. carbonate	10 gms. or 150 grs.

To this should be added a few drops of bromide solution.

Development with edinol generally results in very clear, rich pictures, in which any desired amount of contrast may be introduced by employing more bromide. It will probably be found, notwithstanding, that a little practice and experience are necessary before the best possible results are obtained, for edinol, like all ideal things, cannot be understood or mastered all in a moment; therefore, give it a fair trial, and give the paper a fair trial, before criticising either the one or the other in the assumptive way that is, we are afraid to say, a quality that seems to come with time to all amateur photographers.—*The Amateur Photographer*.

Reduction vs. Enlargement.

"Although many a negative may be improved by enlargement," says Will A. Cadby in *The Photogram*, "there must be numbers in every photographer's collection that, for some purposes at least, would greatly gain by reduction. This applies with equal force to portraiture and landscape. Take the case of a portrait that should have been sharp, but through carelessness was inaccurately focused, or in which the sitter inadvertently moved slightly during exposure. A reduction from such a negative—providing the movement is not extreme—will give a delightful photographic miniature, in which the movement, so noticeable in the large negative, will be almost lost sight of. Then, again, with the present fashion of wearing several tiny lockets on a chain, friends are only too glad to have photographic miniatures to fill these lockets, and often, in an amateur's ordinary outdoor group, one or two of the faces form such satisfactory likenesses, that they are worth singling out and perpetuating in this way."

Contribution Box.

LANTERN SLIDE CURTAIN.

SEEING, from a recent number of the magazine, that there are others beside myself who object to the so-called "dissolving" at exhibitions of lantern slides, I venture to describe a simple dodge that I have found very effective, and at the same time restful to the eyes of the spectator.

I employ a "push-through" carrier to the lower front side of which is glued a piece of black cloth thick enough to exclude the light and large enough to cover the opening, its upper edge being glued round a small roller, actually one of Dixon's long pencils. The roller is hung by slight rubber bands so as to remain either suspended at the top of the carrier, and to admit of being gradually rolled down and to remain down while the slide is being shown.

In commencing the exhibition, or rather just as the lights are being turned down after the usual introduction, and with the first slide in its place, the roller is slowly turned town, and being considerably out of focus, appears on the screen exactly as if a curtain was being rolled up. When the slide has been sufficiently shown the roller is gradually turned up, the next slide pushed in and the roller again turned down, or from the spectators' point of view, the curtain again rises, and so on to the end. Of course, the dodge is not new, but it is none the worse for that, and it is a wonderful improvement on the ordinary show whether by merely displacing one view by another or by the so-called dissolving.

THOMAS JACKSON.

SIZE OF OBJECTS IN A PHOTOGRAPH.

How often, when examining a collection of photographs, do we wish for some means of ascertaining the size of some of the objects, a geological specimen for instance, and how much the value of the photograph would be enhanced if it were made itself to give the information. And nothing can be simpler. One of the most useful things—next, in fact, to a pocket knife—that a photographer can carry is one of the neat folding-in-four one-foot rule that may be bought for a few cents, and better still of ivory for about a dollar. By its aid he can find, near enough for his purpose, the focus of his lens or that of his less knowing friend, and the value of the stops thereof when they are not marked, or correct them when wrongly marked, which is oftener than is generally supposed; and indeed so many other uses, that within a month after beginning to carry one he will wonder how he ever could have done without it.

Such a rule, opened out, of course, and laid in some suitable place and in a suitable position, in the picture shows the relative size of everything included, and often gives inestimable value to what without it would have been useless.

I have carried such a rule for years and rarely expose on a subject without it, and recently got five dollars for a print for reproduction solely because it enabled the exact size of a boulder to be ascertained.

IRA HAMILTON.

IMPROVING PLATINOTYPES, ETC.

It may, to some, seem like painting the lily; but to me on most platino-types, and the same applies equally to prints on developing papers; the image appears wanting in what in the olden time was called "juiciness," flat and sunken in, as it were. This is altogether removed by the application of what used to be called "encaustic paste," first applied by a Frenchman whose name I have forgotten, but whose whole plate portraits more than forty years ago created quite a sensation all over Europe. Just what his formula was I do not know, but good white wax, or, better still, I think, although I have only used it during the past two months, paraffin wax made into the consistence of cerate or ointment with oil of lavender answers perfectly. A little of this is applied on the tip of the second finger or a soft linen cloth, and by a circular motion going all over the surface; rubbing off as far as possible all that has been put on with a soft cloth, such as an old silk handkerchief. This gives the shadow a charming transparency and seems to bring the picture more on the surface, and at the same time protects it, to a large extent at least, from the action of the atmosphere.

The paste or cerate is made by melting the paraffin or wax in any suitable porcelain vessel, a teacup, for example, and as it begins to cool gradually stirring in the oil, keeping up the stirring till quite cold.

GEO. HUNTER.

CHEAP CHLORIDE OF GOLD.

Although only an amateur, I do enough work in a kind of professional way to make the cost of the gold used an important question; and having recently taken to making my own with very decided advantage, there may be others who would like to do likewise.

From a "carver and gilder," but more than anything else a frame-maker in our town, I buy what he calls "skewings," the gold leaf brushed off in the process of gilding the moulded corners, etc., of the frames. It is supposed to be largely mixed with bristles, dust, etc., and so sold at considerably less than the pure metal. The quantity to be converted into chloride is carefully weighed, placed in a small, deep Berlin porcelain dish and sufficient aqua regia—one part of nitric acid to three parts of hydrochloric acid, added to dissolve it. Heat is applied by a sand bath—sand in the cover of a baking powder tin supported over a kerosene lamp, the operation being carried on in the woodshed, where the fumes can injure nothing.

After the gold has been dissolved the heat is continued, carefully regulated as the bulk decreases, and with constant stirring till the surplus acid has been driven off. The dish is removed from the sand while the mass is in a soft pasty condition and allowed to cool.

Suppose that about 120 grains of skewings to have been the quantity operated on, one ounce of water is added and the stirring continued till all that will is dissolved. A small circular filtering paper is then dried and carefully weighed, and the strong solution of gold filtered through

it, the filter washed with water, preferably from a washing bottle, till it ceases to be yellow, the washings, of course, going into what first passed through. Next the filter with its insoluble contents is dried and weighed. The addition to the weight of the filter shows the amount of insoluble matter, and that deducted from the weight of the skewings, shows the actual number of grains of metallic gold in the solution, less the small quantity of alloy, which I do not take into account and which, left in the solution, does not in any way interfere with the toning.

Whatever may be the number of grains of metallic gold, I take it for granted that I have got just double that quantity of the chloride and make up the bulk of the solution to just that number of drachms, labeling it, "Solution of gold 1 grain to the drachm." It tones in every respect as well as the commercial article, and costs at least one-third, sometimes a half, less.

ANDREW WYLLIE.

Words From The Watch-Tower.

BY WATCHMAN.

Did ever any one hear of "chloride of silver water," at least before the advent of the late issue of *The British Journal of Photography* almanac, or the January number of *Wilson's Magazine*, the editor of which seems to have considered the curious article worth copying? I trow not, and am puzzled to see how either of those usually careful caterers to the photographic fraternity could make room for what seems to me such—well! I'll let each reader supply his own pet adjective.

* * *

In the article referred to J. C. Hacket is allowed to tell "how to develop faintly printed prints on gelatino-chloride papers;" but as everybody knows how to do that I shall not occupy space with it further than to say that according to the author the thing cannot be done unless the developing solution is made with "chloride of silver water." How this is made J. C. H. takes two columns of *Wilson's* to tell, but in a word, it is simply the washings of the prints, and the following extract will probably give our readers all they can want of such nonsense: "As a guide, I may say that eight ounces of water will be a suitable quantity for washing the chloride of silver out of two prints 8 1-2 x 6 1-2 inches; four, 6 1-2 x 4 3-4 inches; or eight prints, 5 x 4 inches, or 4 1-4 x 3 1-4 inches, if used in dishes suitable for the size of the prints to be washed, but the smaller the quantity of water it is possible to use, the better, because it will then be stronger in chloride of silver, which will be a great advantage, because it is to be used to dilute the concentrated developer with, and the more chloride of silver there is in it, the quicker it will develop."

* * *

As will be seen from the following, which I clip from *The British Journal of Photography*, there is a good deal of fun being made from the new Licensing Act that came into force in England on New Year's day;

but nevertheless, if properly carried out, it should bring grist to the professional mill: "In view of the new Licensing Act we have received the following suggestion as a circular letter which some of our more pushful professional portrait photographers might like to adopt:—

Baker Street, W.

Messrs. Camera and Lens present their compliments to Mr. ———, and beg to say that they are making a collection of portraits of the principal inebriates of Great Britain and Ireland, and would take it as an especial favor if Mr. ——— would honor them with a sitting for his portrait at their studio, No. ———, Baker Street, W.

Should it be inconvenient to Mr. ——— to come up to town, Messrs. Camera and Lens will send one of their artists to his residence whenever Mr. ——— wishes.

P. S.—Refreshments provided.

A correspondent writes:—"The magistrates of Whitby have decided to have all habitual drunkards photographed and copies of their portraits distributed to all publicans."

Jeb. Turner—in front of Sutcliffe's window—loq.: "I say, Bill, let's get drunk, then we shall have our portraits took for nothing."

* * *

For years this magazine was almost alone in its efforts to give Talbot his due as "The Father of Photography," but truth will always ultimately prevail. One by one other journals are recognizing it, the latest being the *St. Louis and Canadian Photographer*, in which Robert Benecke has the following to say:

"Many men are under the impression that the daguerreotype was the first form of photography, and that the inventor was the Frenchman, Daguerre. This is by no means the case. Mr. Fox Talbot, an Englishman, was first in the field with a process which had various advantages over the daguerreotype. Fox Talbot was born in 1800 and made pictures in 1835. He worked at his process from 1835 to 1839. His prints, then called photogenic drawings, were shown by Faraday at the Royal Institution on January 25, 1839. On January 31st he described his process to the Royal Society, supplementing it with a further paper on February 21, 1839. In January, 1839, Daguerre discovered his process, but did not publish it till August 19, 1839."

* * *

But even a good man may go wrong. While Mr. Benecke's facts and figures are correct so far as Talbot and Daguerre are concerned, in his next paragraph he shows just a little too much credulity in recommending something that he certainly had never tried. He says:

"No more spoilt platinotype paper.

"This dodge discovered by an amateur will prove of inestimable value to all platinotype workers. We all know that platinotype paper will deteriorate very quickly when exposed to the air and many pieces of paper are thrown away as "spoilt" through age or exposure to damp. Well, all that spoilt paper can be used and will make prints equal to the best if it is

kept in a fairly hot oven for an hour or two before it is put in the printing frame."

This, expressed in various ways, although "in a fairly hot oven for an hour or two," takes the cake for heroic treatment—has been going the round of the lesser journals for several years, and it is now about time to say that no amount of baking or indeed anything else will restore "spoilt" platinum paper.

* * *

Fritz Hansen, in *The Jahrbuch des Photographen*, shows that professional photography in Germany is at a low ebb. Department stores and other large commercial concerns have taken it up and brought down prices to an extent little above the cost of the material, the *cart de visite* about forty-two cents, and the cabinets considerably under a dollar per dozen. As a consequence hundreds of the smaller men are going to the wall, and even the larger are faring badly; even the firm of W. Hoffert, with branches in most of the larger towns in Germany, as we learn from the *Photographisches Wochenblatt*, has been compelled to suspend payment with liabilities amounting to about \$450,000.

* * *

Why does not some one either make or import the Cristoid film? If all we read of it is anything like true there are many who would employ it at whatever cost. Here follows what was said and demonstrated concerning it at a recent meeting of the London Camera Club, and we are sure that no one can read it without wishing as we do, that it were come-at-able: "On Monday evening last Mr. R. Fleming Smith demonstrated the Cristoid film, which unlike any other film, has no base, as it consists only of two emulsions of different degrees of sensitiveness. The upper layer or matt, which is the fast emulsion, is four or five times faster than the lower layer of emulsion. He said: "The advantages of doing away with a base are immediately apparent. Celluloid, the base generally used for films, is a most inflammable and explosive substance, being in fact on the verge of decomposition, and when decomposition takes place acids are liberated which prove fatal to the latent image. Then again halation will be absolutely impossible, there being no base to reflect the light. The Cristoid film having a combination of two emulsions of different degrees of sensitiveness allows a latitude in exposure which is enormous. The matt side, which is highly sensitive, indeed absorbs practically all the rays falling on it, but it allows the blue or chemically most active rays to pass, and a latent image is produced by the slow film taking up these active rays. In the case of a single film plate or ordinary film these blue rays either spread all over the film and produce over-exposure, or in very contrasty subjects are reflected from the back of the film support and cause halation. It will be seen, then, that negatives on the Cristoid film will possess a far wider range of tone and a much truer rendering of the lights and shades than any other plate or film. The Cristoid film can be printed from both sides; this will be a great advantage to carbon workers, as the double transfer process is entirely done away with. Curling does not take place either in development or after drying."

"The treatment of the film after exposure is entirely different to that of a plate. The film is first placed in a bath of $\frac{1}{2}$ oz. 40 per cent. formalin to a pint of water, and allowed to remain there until it becomes quite flaccid; it is then taken out and rinsed, and placed into the developer. If a spool of film with various exposures is used, develop until the least exposure fails to gain any further density; as a minute or two longer in the bath makes no appreciable difference no anxiety need be felt as to the film being developed too long. The film having been developed it is again rinsed and fixed in the usual way. After having been fixed the film is washed for about half an hour, and then placed on a piece of glass or other non-absorbent base to dry."

A spool of film was developed, representing exposure time from 1 to 60 seconds on the same subject and with the same stop, and it was seen that there was practically no difference between the last exposure and the first. The film was tied into a knot, and thrown about the room, and it suffered no damage whatever.

Notes.

SENSITIZER FOR POSTCARDS.—M. Sollet gives the following as an excellent sensitizer for postcards, etc., which we have found to answer admirably, giving a pleasing shade of brown. The ordinary postcard has generally a sufficiently non-porous surface to answer without sizing, but most samples of paper and even cards other than post keep the image better on the surface when sized with gelatine or starch. The formula is as follows: Silver nitrate, 45 grains; uranium nitrate, 450 grains; distilled water, 1 ounce; alcohol, 4 ounces. This may be applied on a tuft of cotton or by letting a few drops fall on the place intended to be printed and spread with a glass rod. Print only as deep as the print is desired to be, wash in several changes of water, then in a weak solution of hydrochloric acid, and again in several changes of water.

PAINTERS AS JUDGES.—We are naturally pleased to see our opinions corroborated by men of mark; and having again and again claimed that photographs exhibited and judged from an art point of view should be so judged by those who had received an art education and whose lifework was art, rather than by those who were merely photographers, or who were photographers first and artists only so far as they had been able to pick up more or less of art knowledge; have pleasure in quoting from an article in *Photography* the statement of such a well known photographer as J. Page Croft.

Writing on "The pictorial section of the exhibition of the Royal Photographic Society," he says: "Those who enter for the pictorial section, I take it, claim that their works are pictures first and photographs after. Why not, then, have their pictures adjudicated upon solely by the professional picture maker, that is, the painter?" and once again, so say we.

REGARDING DEVELOPMENT, Felix Raymer says some, to say the least, strange things in *The Professional Photographer*. He gives his opinion of the work of his professional brethren as follows: "Judging from the exhibits, or rather, should I say some of the exhibits, I have seen at the different conventions, and also from photos that are sent me for criticism, I believe that nine-tenths of the trouble in the photographic studio to-day is a lack of knowledge in the development of the negative." And this is how he would teach them to develop: "Now, I am about to advance a practical (remember this is not theoretical) point here in regard to controlling over-, under-, and correctly-timed exposures, and one that I know will meet with some adverse criticism, if not publicly, at least privately, and it is this: Control your exposures by the temperature of your developer and not by adding an excess of pyro or alkali, as the case may be. For example, make up your developer, when ready for developing, with ice cold water. Now, suppose we have a day's work to develop made up of over-, under-, and correctly-timed exposures. Take them as you come to them, and say we develop a dozen plates at once, we lay them in a tray and pour this ice cold developer, of a normal strength, over them. It is a known fact that developer below 60 deg. will not act on a plate, therefore the over-times will be held in check until the developer has gradually heated up to the acting point, and as it is heating up the negatives are gradually developing. They do not flash up and then fade away. You have full control of them all the time." Surely it will be news to many that the developing solution "below 60 deg. will not act on a plate"; and to us it is simply nonsense, as we have developed thousands with developers at least 10 deg. lower.

TELESCOPIC PHOTOGRAPHY.—Dr. H. H. Turner, in his Traill Taylor lecture, mentioned the following successful method of getting over the difficulty and cost of making the ordinary large telescopes suitable for astronomical photography. He said:

"While on the subject of instruments for photographing the stars, I feel sure that an audience of photographers will be interested to learn that a simple device has recently been successfully used to transform a visual telescope into a photographic one. If we remove the eye-piece of an ordinary telescope and put a sensitive film at the focus, we might get a photograph, but it would be a wretchedly bad one, because the lens is arranged to focus the yellow or visual rays, and not the violet rays which are most photographically active. Hence existing large telescopes cannot be used as they stand for taking photographs. Various devices have been suggested for adapting them to photography; the most direct and most costly is to have an entirely new object glass as in the large Paris telescope shown in the Exhibition of 1900; or an additional lens as in the Lick telescope; or to reverse the crown lens of the ordinary flint and crown combination, and alter the separation of the lenses, as in the 28-inch refractor at Greenwich; or to have some correcting lens near the focus. All these methods have disadvantages of a serious kind. Mr. Ritchey, of the Yerkes Observatory, has adopted the much simpler plan of photographing with the yellow light, which is focused, and stopping out the light which is not. He uses a yellow color screen just in front of the sensitive film,

and, of course, isochromatic plates. His pictures of the Moon with the great Yerkes telescope under these conditions are the best that have ever been taken; and he gets also wonderfully fine pictures of star clusters. The drawback to the method is that the exposure required is rather long, so that it is not applicable for faint objects; for these, however, we can use reflecting telescopes."

AVOIDING REVERSAL.—B. V., in *Apollo*, has been examining into the influence of certain sulphites on the development of long, very long exposures without reversal, and not only corroborates the statements of Precht, noticed in our last, regarding acetone sulphite, but finds that potassium metabisulphite acts in the same way. The developing solution he employed was edinol 1, sodium sulphite 10, sodium carbonate 10, and water 100. To a rapid plate he gave an exposure of 1,000 times the normal, or what would have been correct, and development with the above solution resulted in a dense positive, complete reversal having been accomplished. Other two plates got the same exposure, and to the solution in which the one was developed 2 per cent. of acetone sulphite was added, and to that of the other the same quantity of potassium metabisulphite, the results in both cases being negatives without a trace of reversal.

From this it would seem that there need be no difficulty in the matter of exposure, it being only necessary to be sure you give enough, and keep handy a solution of acetone sulphite, say, the Bayer 50 per cent.

ERRATICS IN SLIDES.—The following, extracted from what may be called "some thoughts suggested by the slides," by one of the judges at a recent competition, should be taken to heart by all slide makers: "It was with no regret that I saw few fancy borders. Even the attempts I noticed last year to produce the semblance of a mount around the subject have apparently been abandoned.

"I wish the use of square masks with rounded corners were also abandoned. It is difficult to conceive anything uglier than these. For upright pictures, openings with square corners at the bottom and "domed" with a circular or elliptical arc at the top, are sometimes effective. Oval openings are not always satisfactory. Circles are often unobjectionable. But the hideous, "cushion-cornered" mount is always an abomination; and so are most "fancy" masks.

"I wonder why so many slide-makers seem to aim at square pictures. This is seldom deliberately planned in making a print. And any subject whose proportions appear to advantage in a print should have those proportions preserved in a lantern slide. It is easily done by masking with slips of paper, top and bottom first, and sides afterwards."

THE PROGRESS MEDAL OF THE ROYAL PHOTOGRAPHIC SOCIETY.—Honors fall thick and deservedly so on our friend, Mr. F. E. Ives. At the recent exhibition of the above society he was awarded a medal for his Stereogram on a single plate and that could be seen without a stereoscope, the "Paralax"; and now we learn that he has been awarded the progress medal; an honor open to be competed for by all the world, for his valuable work in photography in colors. We clip the following from *The Amateur Photographer*:

"Color photography is just now exciting the same special interest in America as in England. Mr. Ives has remodelled his company under the name 'The Ives Process Company,' and is making arrangements to supply plates and all requisites. A special feature will be trichromatic prints on paper. All those interested in the subject of trichrome photography know how Mr. Ives has labored patiently in this field for nearly twenty years, and although he has been equally successful in all branches, he has hitherto most favored the results obtainable by triple projection, or the optically equivalent method of superimposing the three elements by means of the photochromoscope. Now that Mr. Ives has taken to the commercial exploitation of those branches of trichrome work which appeal to the amateur as being within the range of his ordinary operations, we may perhaps expect a new stimulus to the present interest."

THE EXPOSURE METER.—Prof. Alexander B. W. Kennedy, F.R.S., read a paper describing a method of using exposure meters, which, if used in a proper way, were, he said, capable of yielding much more complete information as to exposure than is usually supposed even by their makers. The author wished to obtain from a single reading of actinometer time (the time required by a piece of paper to darken to a standard tint), the whole information necessary for finding a proper exposure, plate and diaphragm being assumed, on any possible subject, whether open moors, under canal bridges, Surrey lanes, or Swiss glaciers. The methods of holding the meter in the shadow of the body or of putting it at some place where it is itself part of the thing photographed, for the purpose of measuring the light falling on the lens, were methods which he could not understand. It would in those circumstances measure the light received by some point which may or may not be photographed. He imagined that what they had to regard, however, was the light reflected by anything actually to be photographed. Makers of exposure meters seem to consider that a slide rule or elaborate system of co-efficients is necessary in order to make the necessary allowances for different types of view, but when it is remembered that even for outdoor work these vary as 1 : 20, there is no wonder at our unhappiness. The author dismisses all of these allowances and makes the meter responsible for all. In the first experiments the meter was held facing the subject, and just in front of the lens. In the case of Swiss glacier scenes, which at the time occupied the author's attention, the meter fairly samples the light reflected, the direct ray of the sun being, of course, excluded, and the time of darkening is fairly proportionate to the exposure required. Such a method would not, however, apply to our home landscapes, where the lighting is entirely different. A meter so exposed would receive light from a hemisphere extending from sky through distant objects to the immediate foreground, and as these in the latter kind of subjects mentioned would vary in luminosity considerably compared with Swiss landscapes, the time of darkening would not be proportional in any way to the exposure required by the scene embraced by the angle of the lens. The difficulty is overcome by attaching a shade to the front of the meter corresponding as nearly as possible to the angle of the lens. A particular use of the hand in shading may be made to take

the place of such a screen. When the actinometer time has been once found, the exposure (given plate and stop) can be directly obtained by dividing by a constant number (100, 200, 500, etc.), whatever it may be. The lecturer takes f-16 as a standard stop. The ratio between actinometer time and time of exposure should be determined for each batch of plates. This is the only figure to be borne in mind. The paper gives several factors for various brands of plate, and the rest of the communication deals with the practical application of the method.

In connection with the exposure meter, we may say that Mr. Henry Wenzel, Jr., American manager of the Wynne's "Infallible," asks us to tell our readers that they now number all the packets of dead-match paper, and that those marked No. 4 are slightly faster than usual, so that it will be advisable, when using it, to lower each speed number on the speed list to the one next below it, *i. e.*, F-III to F-90, F-90 to F-78, etc.

He permits us also, as an encouragement to pinhole and telephoto workers, to print the following letter from the Rev. Frank S. Dobbins, a well known painstaking amateur in both fields:

Gentlemen:—Will you kindly send me, for enclosed fifteen cents, a packet of the new paper? and may I say that, thanks to the articles of Dr. D'Arcy Power, I have satisfactorily solved the problem of how to use the Wynne Exposure Meter in making pin-hole photographs. Simply multiply the number of inches of bellows length by 2 if a No. 8 needle hole is used, by 3 if No. 10, and by 4, if No. 12, and so on. The result is the F value.

I cannot express to you my appreciation of the Wynne Meter. It has saved me plates, it has saved me costs of journeying, it has saved me patience. I have, I speak sincerely, saved its cost many times over, even in my limited work. Especially in telephotography and similar operations, where the question of accuracy of exposure is of first importance, the meter is invaluable. I think so much of it that I have just bought another one for my son, who is also interested in amateur photography. The new meter is, as scores of tests that I have made have demonstrated, absolutely reliable.

These words I send you voluntarily, just from simple grateful appreciation of the meter.

Very faithfully yours,

(Rev.) FRANK S. DOBBINS.

FEDERATION OF PHOTOGRAPHIC SOCIETIES.—Scotland, as it has done in many other things, seems to have taken the lead in something like a national federation of its photographic societies. The idea of such an affiliation had been in the air for some time, but it took shape only on Saturday, January 17th, when delegates to the number of twenty-seven, representing societies in thirteen cities and towns met in the "Fair City of Perth" under the presidency of Mr. Henry Coats, President of the photographic section of the Perthshire Society of Natural Science.

Mr. John B. Maclachlan, Blairgowrie, who had done the preliminary work, read a number of letters of apology from societies that were unable to send representatives. He then gave a brief *resume* of the events that led up to the meeting, which showed that the movement originated in the following minute, passed at the Brechin Photographic Society, on Septem-

ber 17th, 1902—"That in the opinion of this Association it is desirable that an affiliation of the local photographic societies be effected for the purposes of mutual help, such as holding exhibitions in the various towns, the circulation of a common portfolio, the interchange of papers and demonstrators, exchange of prints and lantern slides, and in any other way that might be found desirable; and further, that our Secretary be instructed to communicate with the Dundee and East of Scotland Association expressing our desire that they, as senior association in the district, take the lead in this matter." The Dundee and East Scotland Association called a meeting which was held in Dundee in November 14th, when representatives were present from Dundee and East of Scotland, Brechin, Aberdeen, Kirkcaldy, and Blairgowrie and District Associations, and letters of sympathy with the proposed union were read from Arbroath and Kirriemuir Associations. At that meeting a suggestion was made by the delegates from Blairgowrie and District Association that the movement should be made national. It was agreed to put this suggestion to the test, Mr. Maclachlan was appointed to write to the Scottish Associations, and the present meeting was the result.

After the delegates present had expressed their views, Mr. McLean moved: "That this meeting is of the opinion that a federation of Scottish photographic societies should be instituted, and hereby resolves to do so." No amendment was forthcoming; but the Chairman called for a show of hands, when twenty supported the motion, and six declined to vote, as they had received no mandate from their societies to do so.

It was then agreed to appoint a small committee to draft a constitution and rules and submit to the societies a month prior to the next meeting, and the following gentlemen were appointed:—Messrs. Maclachlan, Kirk, Horn, and Burns, the last named gentleman's appointment being subject to the approval of his council; and Mr. Maclachlan was appointed to act as secretary *pro tem*.

The delegates then adjourned to the Grand Hotel, where they were kindly entertained to tea. Sir Robert Pullar was present, and, after tea, briefly addressed the delegates. He commended them on the work they had done that day, and wished the Federation every success. He trusted that many of them would visit Perth in July, when the Photographic Convention of the United Kingdom made the "Fair City" its headquarters. Mr. Coates, in a brief speech, expressed the hope that the Federation, they had founded that day would yet be a power for good to photography in Scotland, Mr. Maclachlan, on behalf of the delegates, thanked Sir Robert Pullar and Mr. Coates for their kindly encouragement and hospitality.

A SMALL piece of camphor in the bottle of developer is said to prevent oxidation to a great extent.

WE have received from the publishers a copy of "The Principles of a Lens' Action," a terse treatise on optics by Wm. Taylor, F.R.P.S., which contains much authentic information that is sorely needed by the average photographer. A copy will be sent free to any of our readers by Messrs. Taylor, Taylor & Hobson, St. James Building, New York.

The Conversion of the Silver Image of Bromide Prints into Platinum.*

By C. WINTHROP SOMERVILLE.

IN coming before the Society with this paper, I much regret that I am compelled to state the effects of the process without the cause. During four years' patient research, however, I was unable to get any outside information on the subject whatever, and my results were obtained by almost blind experimental work, with few and vague theoretical chemical considerations to guide me. My investigations were prompted by a call for two very desirable features in the bromide process, both of which could then only be obtained in the platinotype and carbon processes; one was permanency, and the other a sepia color.

It was in the year 1887 that I first took up bromide printing. I soon saw the possibilities and superiority of it over other printing processes, more especially in the matter of large work, but it was not till about eight years later that I started my investigations for the obtention of the two features named.

Many new formulae for toning bromides were published about that time, and amongst them for sepia tones were lead, uranium, and sodium sulphantimoniate. On trial, these seemed to me anything but satisfactory, and even with the present-day revised formulas, I think no better of them, especially uranium, which has the questionable property of giving up its tone by washing.

There may be some who will question my right to condemn the above processes, and substantiate their queries with graphic evidence of their value for a sepia tone, but I beg to say, in part justification, that I am speaking more on behalf of others than myself. The majority of photographic workers are not chemists, and only in very rare instances do we find a published formula accompanied by any chemical and physical considerations for the best working of the process; therefore, for this reason, I say that the originators of the formulae are to blame for unsatisfactory results obtained by the majority of those for whose use it was intended. With regard to the permanency of the foregoing, no one with any knowledge of chemistry will deny that they are all of a most unstable order.

With some other formulae for sepia tones are we any better off?

Take, for instance, cases in which the base for the subsequent tone is formed by converting the metallic deposit of silver into silver chloride by means of a mercury salt. Here we get a range of brown tones, not sepia, by reducing the bleached image with sodium sulphite, liquid or gaseous ammonia, ammonium sulphide, etc., the resulting tone being formed of a complex amalgam of mercury and the reducing agent used. That the colored image formed by these reagents is not permanent I know only by experience, and my knowledge of their unstable construction is obtained more from text books on the subject than from practical chemical application.

* Read before the Royal Photographic Society on the 23rd ult., and reprinted from the Society's *Journal*.

In my initial proceedings I had to decide which was of the most importance, the tone or the permanence, and I feel sure you will agree with me in saying that no tone, however fine, is any good if not permanent; therefore permanency had the prior consideration. This induced me to enter in detail upon the chemical and physical considerations of the permanency of photographic printing processes, and taking bromide, carbon, and platinum as the three most generally used for artistic reproduction, the following is a brief review of my reasoning.

Platinum we know is the most stable of all metals, and in however fine a state of division is practically indestructible by atmospheric conditions. Carbon also is affected by atmospheric influence, but the same cannot be said for all the other pigments used in the process.

Silver in a perfectly pure state is a fairly stable metal, but inferior to the others with regard to atmospheric influence, and more so when in combination with a weaker metal. Now the image of a platinum print, if properly worked, consists of pure platinum in a fine state of division, chemically known as "platinum black," and is supported in or on paper. The image of an untuned bromide print is similar in every way except that the metallic deposit is generally incorporated in a film of gelatine, and is also supported on paper. In a pure carbon print the image consists of lampblack contained in the form of a mechanical mixture, also supported on paper. (I emphasize the support for the sake of comparison, as it is well known that other supports such as linen, silk, wood, opal, etc., may be used in either process.) Light has no influence on deposited silver, platinum, or carbon, and may be discarded as a deteriorating element. The atmosphere, were it pure, would have no influence, since none of the elements are affected to any photographic extent by oxygen or nitrogen; but it is usually contaminated in a greater or less degree with other, and deleterious, gases.

These contaminating gases principally consist of carbon dioxide, sulphur dioxide, sulphuretted hydrogen, and carbon monoxide; of these sulphuretted hydrogen is the most injurious. On carbon it has no effect; on platinum it also has no effect; on silver it has a slight effect, but no human being could live in the atmosphere which contained the amount necessary to affect the silver. It will, of course, be borne in mind that I am speaking of pure metallic silver reduced from the compound salt, silver bromide. If, on the other hand, the image consisted of an organic salt of silver, such as an albuminate or a gelatino-chloride, which has been reduced by the action of light, then it is a very different matter. An organic salt is extremely susceptible to even minute traces of sulphuretted hydrogen, in the presence of which the surface of a print will soon be coated with silver sulphide. A simple salt of silver, such as the chloride, is also very sensitive to the influence of sulphur in almost any form. But as these forms of silver printing do not come within our category, they need not be considered.

If, therefore, an image consisting of a deposit of pure metallic silver, formed by reduction from the bromide salt, be perfectly freed from everything but the gelatine film in which it is supported, surely it exists in the same state of immunity from extraneous influence or contamination as the

platinum, which is reduced and deposited in a precisely similar manner by an organic salt of potassium instead of an oxygen absorbing reagent.

If the paper contain any impurities liable to affect the element it supports, the deterioration is directly proportional to the stability of the element or metal deposited on it.

If the deposit be in immediate contact with the paper, then surely deterioration would be more rapid than if it were supported in a gelatine film. Personally, I am of the opinion that in all three cases the paper support is likely to fade or deteriorate before the carbon or metal deposits. I might mention here that the silver deposit on a bromide print is always in danger of a certain atmospheric effect. When a violent thunderstorm occurs in close proximity, the air gets charged with ozonized oxygen, due to electrification (if I may use such a word) by continual discharges of lightning, and, to quote Watts's "Dictionary of Chemistry," "finely-divided silver in a moist condition, when acted upon by ozonized oxygen, is converted into peroxide of silver"; therefore, when thunderstorms abound, place all your bromide prints in hermetically-sealed glass boxes. On the question of permanency, then, of an untuned bromide print, we might say that there is but little difference between it and the other two, providing all the chemical and physical conditions under which the print should be produced have been complied with. Arriving at this conclusion, I was met with the danger, which at the present day still obtains, that, in toning, the permanency was rendered uncertain by the fact of forming an amalgam with one or more metals of less stability.

There remained only one course open, to form an amalgam with a stronger metal, or effect a substitution. I tried the amalgamation with iron, platinum, and gold, but probably owing to the blind manner in which I directed my experiments, my results were totally unsatisfactory. Just at this time a chemical friend, who was not a photographer, and could not therefore thoroughly appreciate my difficulties, suggested the application of platinum in a very fine state of division, which gave the well-known sepia deposit.

Upon trying this, both in the way of an amalgam and a deposition, and meeting with some success, I gave much further consideration to the process. It would be useless and wearying to give a detail of all my experiments, as many of them were carried out with a lack of chemical knowledge of the reactions involved, and only served to reduce the limit of my endeavors.

Suffice to say that I reached the point where I could substitute platinum for the silver, and completely eliminate the silver. But here I received a check—the platinum was left in the form of a black deposit. Curiously enough I came across a similar process for the same result in one of the photographic journals about six months later. The formula is as follows:

Potassium chloroplatinite.....	5 grains.	Suggested by Vogel in 1887.
Hydrochloric acid.....	10. minims.	
Water	5 ounces.	

This produced a fine black tone which defied the bleaching action of mercury, and in order to prove if the substitution was complete or only partial I applied a cupric bromide bleacher:

Copper Sulphate	200 grains.
Potassium bromide.....	200 "
Water	20 ounces.

There was no indication of bleaching after the expiration of fifteen minutes, but upon the application of a hypo fixing solution the image rapidly faded till it reached a stage of about half its original depth of tone, when it remained permanent and indestructible. This seemed to indicate the presence of silver, and in order to prove it I subjected another toned print to the action of cupric bromide, and after washing applied a rodinal developer, with the result that the image intensified to an enormous extent and of an exquisite blue black tone. Upon again applying the bleaching solution and dissolving the silver bromide formed, the image faded away to the weak state previously mentioned.

These experiments proved beyond question that the substitution of the platinum for the silver was only partial, and that no matter how long the immersion, or how strong the solution, the substitution was limited. While this was, to some extent, discouraging, it was nevertheless a great point gained on the question of permanency, and I was convinced that if platinum could be reduced to the metallic state of a sepia tint, as in the platinotype process, it could be done by other means. The simple chemistry of toning ordinary gelatine chloride prints with gold and platinum appealed to me strongly at this stage, and I fully consulted such current authorities on the subject as Abney, Wall, Davanne, Girard, and others. I applied my knowledge by combining a solution containing platinum with one of mercury, with the idea of simultaneously bleaching the silver and depositing the stronger metal. Whether such action took place I regret that even now I am unable to say, but the fact remains that I obtained the first approach to a sepia tint in this way. True, the process was far from being satisfactory, since unless a very great quantity of platinum was used the print bleached too rapidly, the tone being much too light. This seemed to indicate the want of a restrainer, and upon the application of a citrate I got very near to what I wanted. I say very near because after many experiments I found that the proportions of the bleaching and restraining reagents must be exact and invariable, while the quantity of platinum is immaterial, affecting only the speed of toning or deposition. The complete and best working formula I have found is:

Potassium chloroplatinite.....	1 grain.
Mercuric chloride.....	1 "
Citric acid.....	9 grains.
Water	1 ounce.

The speed of the toning action with this formula is about the same as that of an ordinary gold or platinum bath with P.O.P. The tint produced is of a warm sepia and may be varied slightly by increasing the mercury, when the tone will be somewhat lighter.

Platinum bichloride may be substituted for the chloroplatinite, but other salts such as the ammonium chloroplatinite do not work satisfactorily. Now, as I said at the outset, I am giving you the effect without the cause, for I confess that I am not at all sure of the chemical reaction which takes place in the process, especially as mercury is the only bleaching agent with which it will work. As a toner, the formula given has a peculiarity which, I believe, is singular.

It is well known that most, if not all, toning formulae for bromides—the hypo and alum excepted—produce intensification in a greater or less degree, thereby engendering an uncertainty as to the subsequent depth of tone of the print; in the present case the intensification is slight, but of such a degree that the scale of gradation of a fully toned print is almost precisely the same as the original scale of black to white. The value of this is obvious, since a print may be developed in the first instance to its ultimate required depth. So much for the simple tones; there are, however, some concomitant features discovered later, which are of interest.

A solution made from the foregoing formula has a slight tendency to stain the gelatine, and it was not till quite recently that I found a remedy. While testing its powers on the bromo-chloride gaslight papers I found that the action of the mercury on these was much too energetic, and instead of increasing the proportion of citric acid I added some 10 per cent. bromide of potassium. The application produced exactly what I wanted, and revealed something else, an exquisite power of intensification and a complete absence of staining. Personally, I cannot speak too highly of this feature, its effect upon "muddy" prints being very fine. One to three drops of 10 per cent. bromide of potassium to the original formula is sufficient, and intensification practically instantaneous. It may be applied locally, but the solution should be diluted and strengthened if required. It acts equally well for negatives, giving a fine purple black color. The tint produced with the addition of the bromide is of a colder sepia.

Platinum bichloride produces rather a colder and browner tint. The following are some advantageous features of the process. If a print when toned lacks depth it may be immersed in a bleaching solution of

Copper sulphate.....	200 grains.
Potassium bromide.....	200 "
Water (boiled or distilled).....	20 ounces.

All to remain for three minutes, rocking the while. Wash in a running water for one minute and apply any developer used for bromide work. Great intensification with a return to the original black color is the result; it may then be re-toned.

If, after being subjected to the bleacher, the print is immersed in a hypo bath the silver is dissolved out, leaving a light sepia image of pure platinum. A solution may be used till exhausted in platinum, but will continue active if more platinum be added. It is advisable in large work to tone by means of a brush, standing the dish in a nearly upright position and allowing the solution to collect in the bottom. By doing this a fairly concentrated solution can be used, rendering the process much quicker and more economical.

As a test for permanency the following experiments were made: A print, one-half of which was covered with cardboard, was exposed in a window to a southern aspect for two years and showed no trace of fading. A print was subjected to the following solutions in the order given:

1 hour in 50 per cent.	ammonia.	No change.
"	"	sodium hydrate. Slight softening of the paper.
" in 25 per cent.	HCl.	No change.
"	"	HNO ₃ "
"	"	H ² SO ₄ "
"	"	Aqua regia (cold). Slight fading.

Another print was immersed in hot saturated solution of bichloride of mercury. No change.

A last and not unimportant feature is a great hardening action on the film, of such an extent that a print may be toned by leaving it immersed in a solution for any time up to four days without fear of blisters; a solution may be heated up to 90 deg. Fah., the action being thereby quickened. It works equally well with all brands of bromide paper, although toned papers are inclined to give an unpleasant yellow tint to a finished print if the toning is protracted.

In conclusion, I would like to say that this paper is one of many endeavors to raise the bromide printing proces with its illimitable possibilities to a far greater and more deserving height than it has at the present day attained.

Some thanks are due from me to one of our greatest authorities on photographic chemistry, Mr. E. J. Wall, for information on the subject of the substitution of platinum for the silver in a bromide print.

THE EASTMAN KODAK COMPANY have issued a handsome portfolio of half-tone reproductions from a number of prize-winning pictures in their recent competition. A copy will be mailed to any address for ten cents.

THE Twenty-third Annual Convention of the Photographers' Association of America will be held in Indianapolis, August 5th to 7th. The secretary, Geo. G. Holloway, Terre Haute, Ind., would like to hear from those members who propose sending exhibits and urges upon every one to do their part in making the convention a success from an educational standpoint. Co-operation will do it. Do not leave it all to a few members.

THE QUARTER CENTURY Photographic Competition, which is being conducted by the Bausch & Lomb Optical Company, and which closes October 1 next, is attracting unusual attention among American photographers, from the fact that it is the only competition in recent times in which the merits of American photographic lenses have been tested, and it will be an extremely interesting epoch in the development of American photography, as showing the results of the last quarter century's work in an industry which has heretofore been essentially European. Judging from the quality of the exhibits which have already been handed in, we have it from good authority that there will be no cause for the users of American lenses to regret their choice.

Society News.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Clifton Springs, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest to our readers.

Akron Camera Club Notes.

The carbon process and ozotype was the subject of a demonstration before the Akron Camera Club at the January meeting. Mr. Edw. W. Terrass explained the process and demonstrated the manner of development and transfer of the tissue. His explanation of the process follows:

In carbon printing we have a process that has many advantages over any other in common use; in fact, it combines the good qualities of them all and gives prints containing all that is in the negative, in any color desired, which are absolutely permanent. The image is not a visible one before development so some kind of print meter is required to ascertain the printing time. A very satisfactory one is easily made by pasting strips of white tissue paper on a plain piece of glass in such a manner that they will overlap one another, making squares containing one, two, three, four, five and six thicknesses of paper, each square being numbered thus |1|2|3|4|5|6|. Place this in a printing frame with a piece of printing out paper and expose to same light as the carbon is being printed by. The carbon, if printed under an average negative, will be sufficiently printed when the meter registers two.

The first step in preparing the tissue is the sensitizing. This is done by immersing for three minutes in a five per cent, bichromate of potash bath. It is then dried in the dark and stored in a dry place about two days before use.

The transfer of the tissue is the next step after printing and is easily accomplished by placing in a tray of warm water with a sheet of transfer paper and pressed into close contact with it. It is then placed under a weight for a few minutes to insure perfect adhesion, after which it is returned to the warm water (about 120 deg.), and when the color starts to ooze out around the edges the original support of the tissue can be easily peeled off, leaving the pigment exposed to the action of the water, which soon washes away the parts not affected by light and leaves

the image in all its beauty on its new support. This is the single transfer process, and the image is reversed as to right and left, but this can be overcome by again transferring the image or simpler by making the negative on a film and printing it film side out.

The ozotype process is a modification of the carbon and differs from it in that the final support is sensitized and printed instead of the tissue, and it gives a visible image, so no meter is required. The tissue is then squeegeed on the printed and washed final support and allowed to dry. The development can be completed at any time after this stage in warm water the same as carbon.

A peculiarity of carbon is that if prints are not developed soon after printing the light action continues and the print appears over-exposed. An under exposed print can be saved by allowing for this action if the fact of under-exposure is known.

The Interchange slides were shown after the conclusion of the demonstration and the meeting adjourned.

E. J. H.

The Camera Club of New York.

In our February issue we briefly alluded to the annual dinner held on January 31st at the New York Athletic Club rooms. It should be said that the dinner was in every sense a success and was thoroughly enjoyed by the participants. About eighty plates were set on two long tables, with a cross table at one end of the room over which President C. H. Crosby presided, having associated with him on one side Mr. John R. Van Wormer, president of the Athletic Club, and on the other Mr. Walter P. Stokes, president of the Photographic Society of Philadelphia. Further on his left sat Mr. C. Volney King, and Mr. Henry A. Blythe, and on the right Mr. D. S. Plumb, president of the Orange Camera Club, and Mr. F. C. Beach, general manager of the American Lantern Slide Interchange.

The Entertainment Committee (Mr. Wm. J. Cassard and Mr. J. Edgar Bull) provided a bountiful supply of eatables and some surprises in the way of a miniature hand camera containing ice cream and boxes of "dry plates" of various makes containing a similar compound, and elaborately printed menus accompanied by a photographic print made by some member of the club. The committee was accorded three cheers for the excellent work it had done.

After two hours of eating and drinking the fun of the evening began by the drawing of cards out of a hat to see who was to obtain one of the seven or eight handsome photographs suitably framed and as each name was called surprise followed by applause occurred.

The fun being over, President Crosby opened the after dinner speaking by appropriately thanking the Athletic Club for their hospitality in putting the club quarters at the service of the Camera Club. He then spoke of the exhibitions held by the club or at its rooms during the past year, how well they had been received and of the interest manifested. Art was next explained, what it was and what it meant. Photography, he contended, is the lineal descendant of the highest art and about its future much can be said. The tendency of the practice of photography is for good. It is a moral agent, prevents crime; no one who practiced the art as an amateur was ever known to be sent to Sing Sing. A funny story was related of a wife when asked about her husband seldom spending his evenings with her at home, answered that it was true she did not see much of him, for he spent most of his time up stairs in his den dabbling over plates or prints. She did not mind it for she knew he was safe.

Photography, he thought, tends to make men better, it elevates the mind, leads to things which teach patience and perseverance. Under the art of photography there is room for all and it is open to all.

If all thought alike photography would be a humdrum sort of cult.

As to the future, there was no means of foreseeing what would happen. It is known that photographs can be transmitted over electric wires; who knows but what development may be carried on by wires or there may be

possibly an automatic auto camera or an artistic automatic auto camera that you simply tell it what to do and it does it and you call the product your work.

Mr. John R. Van Wormer, president of the Athletic Club, then welcomed the members of the Camera Club and hoped to see them again in another year and spoke of the cordiality existing between the clubs, for he said it was to the interest of their club to entertain such an association as the Camera Club, since it might be a few of their members some time or other would perhaps want to pursue a healthier pastime than photography in the way of athletics by securing a membership in the club. He spoke of the value of photography commercially and especially how helpful it had been in determining pictorially the damage to a dwelling house on Park avenue, because of the blasting of the Rapid Transit subway. One picture had been made prior to the beginning of operations, the other afterwards. It was the determining factor in the award of damages.

Mr. Walter P. Stokes, president of the Photographic Society of Philadelphia, was then introduced and spoke of the pleasure he had in attending this annual dinner. In Philadelphia, he said, the society had decided to move, new high buildings had interfered with the light for printing, etc. The society had purchased a house of its own at 1722 Arch street and early this spring the transfer would occur.

He said a few words on the future of the Photographic Salon. In his judgment they should not be held oftener than once in three years and should be very rigid in regard to quality of work to be shown. The large salons were too much for most workers because they were too frequent. To avoid personalities he believed a salon should be organized and conducted outside of photographic societies or clubs. Interest in the photographic salon is not dead by any means.

Salons would be more mutually helpful if all classes of photographers would work in harmony to accomplish one grand result.

We all enjoy photography. We practice it because we enjoy it. It promotes good fellowship and higher aspirations.

Mr. D. S. Plumb, president of the Orange Camera Club, responded

SOCIETY NEWS.

briefly as representing one of the neighbor clubs and alluded to the pleasure it always gave him to attend the annual dinner of the club. After making one or two amusing comparisons, he made a plea that all sides get together so that there should be no need of any photo-secession.

He spoke of the splendid success of Alfred Stieglitz as being the only American who had broken down the bars of the Paris Salon against the admission of photographic work as an art or capable of art possibilities.

He was averse to the so-called Photo-Secession idea; wanted all to get together and work for the upbuilding of photography in its art aspects as well as any other. His remarks were loudly applauded.

President Crosby echoed the sentiments expressed by Mr. Plumb and said it was the secession movement in 1861 that laid the corner stone of this great republic. The analogy as to photography was evident. We should cultivate and promote good fellowship and aid the club to further the great cause of photography in all its phases.

He then presented in a few well chosen remarks a handsome silver cup known as the president's cup, for the best figure composition to Mr. Edward Steichen, which had been awarded to him by the judges recently at the club as being the best of its kind, hung in a figure and genre club competition held last winter. In accepting the cup Mr. Steichen at the urgent request of the members, remarked that he was greatly surprised to have been selected as the recipient and he should hold it in high esteem. He said he felt like a young boy whom he knew of that was treated to a good dinner and ended in ice cream; when the boy saw the ice cream he exclaimed, "Hully Gee." Mr. Steichen said that's the way he felt when he saw the cup. He knew there were many that were very proficient in making photographs, but the trouble was they did not know how to originate ideas.

He believed harmony among all classes could be brought about and wished well for the Camera Club.

In the landscape club competition Mr. Rudolph Eickemeyer, Jr., won the first prize. (See the frontispiece of *AMERICAN AMATEUR PHOTOGRAPHER* for January.) Mrs. Juan C. Abel pre-

sented a silver cup for that to the club, and President Crosby presented it to Mr. Eickemeyer, the latter responding very appropriately and described the difficulties he had to overcome in making the picture one early morning in August on the Jersey coast, bringing in humorously the peculiarities of the New Jersey mosquito.

After the presentation, President Crosby called attention to the Turin prize having been given to Mr. Stieglitz, then the assembly broke up some time after eleven o'clock.

Nothing was done at the regular monthly meeting on Tuesday evening, February 10, except to vote for a Nominating Committee to nominate officers and one or two trustees for another year.

The committee receiving the most votes was R. A. B. Dayton, chairman; A. P. Schoen, F. Lewis Graefe, Edward Heim and H. T. Lockwood.

On Friday evening, February 13, Mr. Frank La Manna gave an interesting talk on "A Trip in Spain," illustrated with good slides which he always makes, and interspersed with his usual witty and humorous remarks and anecdotes. The entertainment was thoroughly enjoyable.

On Tuesday evening, February 24th, Mr. Cornelius Van Brunt gave a lantern slide illustrated talk on "Wild and Cultivated Flowers of Autumn" which was greatly appreciated, the slides being especially colored to match the color of the flowers.

From February 10th to 28th there was hung on the walls by the Print Committee nearly sixty selected prints by twenty-nine members of the Photographic Society of Philadelphia. The exhibition was regarded as one of the best collections of good average work shown this year.

Toronto Camera Club Salon.

The Toronto Camera Club sends an announcement of their first salon (twelfth annual exhibition) to be held from April 21st to 25th, under the following rules and regulations:

No awards are offered, and no charge will be made to exhibitors. Each exhibitor will be furnished with the catalogue issued by the club, which will be official notification of acceptance or rejection of the works submitted to the jury for selection.

Each picture must be mounted. Framing optional.

Each exhibitor shall place his name, address and title of print on the back of each frame or mount. No writing of any description to appear on the front of any picture. Title, etc., will appear in catalogue.

Any number of prints may be submitted, but only such as in the option of the Jury of Selection show distinct artistic merit will be accepted.

The Jury of Selection will be composed of two artists and one professional photographer.

Pictures must be delivered, charges prepaid, to the secretary Toronto Camera Club, Forum building, Yonge street, Toronto, Ont., and must reach club rooms not later than Monday, April 6th, 1903.

Note.—In sending exhibits from points outside Canada, allowance must be made for at least three clear days, detention in Customs. When possible, exhibitors from points outside of Canada should send exhibits by post.

Exhibits will be repacked and returned to exhibitor as soon as practicable after the close of the exhibition. Special care will be taken of all exhibits, but responsibility for loss or damage cannot be assumed by the club.

HUGH NEILSON,
Secretary-Treasurer.

Forum Building,
Yonge Street, Toronto.

Amateur Photographers' Club of New York.

The Amateur Photographers' Club occupied their new rooms for the first time at the meeting on February 13th. The club is now comfortably housed at No. 310 West 53d street, Borough of Manhattan. The membership is increasing, but there is still room. The meeting night has been changed from Tuesday to Friday, and in future semi-monthly meetings will be held on the first and third Friday evenings of each month. At the meeting on February 13th a demonstration of Cyko bromide paper was given by Mr. West, representative of the Anthony & Scoville Co., and it is proposed to have some demonstration, lecture or exhibition at each meeting. The dark rooms are now ready for use.

All users of the camera should recog-

nize the benefits of camera club membership and those who desire to avail themselves of this privilege should take advantage of the present low entrance fee of one dollar and fifty cents monthly dues. The club rooms will be open to members at all hours of the day or evening, and photographers will be welcomed at the next regular meeting, Friday evening, March 6.

D. W. C.

The Reading Lantern Club Exhibition.

The Reading Lantern Club will hold their second exhibition of photographs at the Club rooms on May 4th to 9th, 1903.

The Exhibition Committee desire exhibits of representative photographic work of the present time, more especially that class showing artistic handling. There will be no prizes and no entrance fee, but exhibitors will receive a souvenir catalogue. Pictures must be in Reading, carriage prepaid, not later than April 25th. Address all communications and pictures to Fred. E. Haas, 152 Buttonwood street, Reading, Pa.

Bergen Photographic Society.

The Bergen Photographic Society was organized at Hackensack, N. J., less than a year ago and has a small but enthusiastic membership. At the annual election the following gentlemen were chosen officers for 1903: President, Burton H. Allbee; vice-president, Chas. Kastner; secretary and treasurer, C. B. Newman.

Saturday evening, February 7, the society's first annual exhibition was held. One hundred and twenty-five prints were submitted in an open competition for a silver cup offered by the society. Some of the prints were exceptionally good and the cup was won by C. H. Lomax Mitchell of Ridgewood, N. J.

The society is having a series of lectures on photographic subjects. The first one in the course was on the evening of January 31, by W. J. Cotterell, entitled "Composition." Mr. Cotterell is a master of the subject and his talk, which, by the way, was illustrated by lantern slides prepared especially for the lecture, was very instructive.

Saturday evening, February 14, Mr. Burton H. Allbee lectured upon "Pic-

ture Taking and Picture Making." His talk was illustrated by specially prepared lantern slides. Saturday evening, February 28, Mr. Everett Terhune gave a demonstration of lantern slide making by reduction, using a reducing camera in his work. Other subjects will be announced later, but all will be intensely practical.

Photographic Society of Philadelphia.

We are glad to see that the Photographic Society of Philadelphia, now in its forty-first year, is about to become the owner of its own building. It is the oldest and has probably been the most energetic and generally most useful of American societies or camera clubs, and the accomplishment of this latest move will tend to increase both its energy and usefulness.

On the anniversary of its fortieth year the following paper was read by Mr. Jno. C. Browne:

PHOTOGRAPHY IN THE EARLY DAYS.

Forty years have passed since an enthusiastic group of men entered into an agreement to form the Photographic Society of Philadelphia, which was opened to both professionals and amateurs alike.

The constitution was composed of few words, and the by-laws were as short as possible.

The first list of members carried about fifty names and contained nearly all the photographers in Philadelphia.

To make pictures at that time required hard work, and the chemicals used were not conducive to clean hands or linen. I have for that reason often wondered why amateurs were so deeply interested in the subject. In the early days of this Society the professional element was of the greatest importance. It has always seemed to me that much of the success that attended our Society was due to the kind and liberal feeling shown to the amateurs by their professional brothers. We were taken into their dark rooms and printing places, often being allowed to assist them in their work. Looking over my note-books, I find constant mention of formulae given to me by Gutekunst, Wenderoth, Newell, Bell, Moran and others. Before 1860 little attention had been given to landscape work. Portraits were desired by all and the lenses used were not suited for outdoor views.

Portable cameras were almost unknown. A few stock dealers supplied the wants of the small number of photographers in Philadelphia, and not a light landscape outfit could be purchased ready made. If a camera was wanted the purchaser would find it necessary to climb to the fourth story of a building at the southwest corner of Third and Walnut streets, and explain to John Pease, a cabinet-maker, what was required. In process of time, a month or two, the order would be filled, and the camera ready for use. Pease was an Englishman and knew how to do good work. Amateurs devoted most of their time to outdoor work, leaving portraits to the professionals.

Among the early members of this Society were many enthusiastic fishermen, who carried their cameras and portable dark rooms with them on their expeditions, bringing home not only pictures of the places visited, but a record of the catch. While the wet collodion process was generally in use, experiments were being made to perfect a reliable dry plate. Among them abumen, collodio-bromide, tannin, malt and many others had earnest support. It seemed that each amateur was experimenting to produce the best results, and it must be admitted that some of the work shown was excellent.

Commercial dry plates were sold in England before the birth of this society, success attending their use there, but the sea voyage and climate of America did not agree with them, for almost constant failure followed their exposure here.

The best dry plate I ever used (before the advent of gelatine) was prepared from washed collodio-bromide emulsion made by one of our own members, Lewis T. Young. With a bottle of this emulsion, some clean glass, and a few chemicals I felt sure of success, needing only a dark room in which to coat and develop the plates. The time of exposure required for wet plate work, as well as dry, seems very long in the light of to-day. With a stop of 25, thirty seconds to one minute in bright sunlight was about right, equivalent probably to one, two, or five seconds with gelatine plates. The discovery of gelatine-bromide of silver changed everything in the way of negative-making as well as printing.

It may be interesting to know what printing paper was used in the early days of photography. At first, sized paper was sold, which required to be *salted*. A fifteen-grain solution of sodium chloride dissolved in water was applied to the sized side of the paper either by floating the paper upon the solution or painting it with a brush. It was then dried and floated or brushed with a solution of ammonio nitrate of silver in water. Dried perfectly and it was ready for printing. Afterwards it was toned, fixed and washed. Prints made by this process as early as 1860 or before that date are frequently found at the present time in excellent condition. Albumen took the place of plain silver paper and continued in use until it was supplanted by the ready sensitized paper now in use.

There are very few of the original members who signed the membership roll November, 1862, that are now living. So far as I can remember, those living at the present time are Dr. Coleman Sellers, Frederick Gutekunst, Francis T. Fassitt, J. Dickinson Sargeant and myself. Several others claim to have been original members, but their names did not appear upon the first roll. One of the earliest members, John Moran, deserves to be remembered for his excellent landscape work. Living among his artist brothers he took up photography as a profession. and his ability to make artistic pictures won for him a first-class reputation. His work was greatly prized by artists who often used it in the composition of their pictures.

To Constant Guillon this Society owes its inception, and as its first president he gave it strong support until his death. The name of S. Fisher Corlies will ever be remembered with kind feeling. He was elected treasurer in 1862 and continued to act in that capacity during his life. The names of Hugh Davids, Robert S. Sturgis, Edward Tilghman, Frederic Graff and Eugene Borda, all early members of this society, were active workers in photography, contributing much to its usefulness, as the minutes will prove. Many of the present members will remember with pleasure our genial president, Frederic Graff. Although a busy man he gave his time willingly to promote the best interests of the art he loved so well.

Many years have passed since Dr. Coleman Sellers, once your president, has been with you at your meetings. With all his exacting duties he still has a warm place in his heart for photography, and remembers most accurately the early history of this society.

Joseph Zentmeyer, the celebrated optician, who gave to photographers the Zentmeyer lens, was an honorary member.

President Henry Morton and M. Carey Lea were also elected honorary members.

Time will not permit me to extend this paper to greater length. I was invited to say something this evening that would carry the thoughts of the members back nearly half a century. If I have succeeded I shall be pleased, but it is a sad task to recall the many friends that have passed away from the active workers of the Photographic Society of Philadelphia.

The following we clip from the Philadelphia Press of December 22:

NEW HOME OF THE PHOTOGRAPHIC SOCIETY.

The Philadelphia Photographic Society has just purchased the property 1722 Arch street for a sum approximating \$18,000.

It is proposed to remodel a part of the building and make an ideal clubhouse at a total cost of about \$27,000 for all equipments.

The large parlor on the first floor of the newly acquired building will be turned into a library and reading room. The floor overhead will be converted into an assembly room, 21 feet wide by 38 feet deep, with three windows in the front and one in the rear.

A new skylight will be put in and facilities necessary for the equipment of a photograph gallery will be installed. It is estimated that the increased cost of maintenance will be about \$500 annually. To meet this there has been an increase of dues.

The society, the oldest of its kind in the country, has been located in rooms on South Eighteenth street for many years. Some of the foremost photographers are members. As the organization that caused photography to be recognized as a fine art it has a fame that is international.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y. During March to Clifton Springs, N. Y.

1569. W. H. Stanchfield.—“Late Autumn.” The effort here is better than the execution. You are right in supposing the perfectly horizontal “shore line” to be a serious, indeed fatal fault, dividing as it does the print into two almost equal halves and repeating the top and bottom margins. Equally unsatisfactory is the result of a too short exposure and too long development, a too white-water and too white sky, and an unnatural darkness of the more prominent trees in the middle distance.



There is, however, a charm in the distant atmosphere that makes the picture, in spite of its faults, very pleasing. A little local reduction on certain of the whitest parts of the water, and the printing in of a suitable sky would be a wonderful improvement, but you would have been nearer your mark to have selected a point of view that would have placed the shore line at an angle across the view, and exposed long enough to have secured all necessary detail with a shorter development.

1570. H. Doermer.—“Has it Ready,” the postman about to deliver a letter, is of fairly good technique, but far from pictorial. As a record of fact it could hardly be better, although a longer exposure would have given truer values. The postman, however, has not been caught in the best place, or in a place that would best suggest the title. True, he has the selected letter in his right hand ready to deliver, but the effect

would have been more satisfactory had the recipient, or at least the open door, been also in evidence. It is an excellent photograph, only needing a little longer exposure and a little shorter development to have given really true values.

1571. W. H. Blacar.—“Winter.” What we said of the exposure of your “Frosty Morning,” 1565, of our February number, applies even more so to this. You say that, so far, you have found it impossible to get good snow scenes, and that your friends are in the same box; but it puzzles us to know how you could expect to do so on a subject such as this, more than half of which is dark foliage, with an exposure of a third of a second, and an aperture of *f. 16* on an overcast day. With our plastigmat at *f. 6.8* we should, on this subject, expose for the very pronounced foliage, certainly longer than a third of a second; and by one or other of the well known methods, either in development or after this operation by local reduction recovered the buried water. Perfectly black trees against a perfectly white sky cannot now be accepted as even a tolerable rendering of such a subject as this.

1572. P. Walker.—“Passaic Falls” is, but for one fault, as good a representa-



tion of this interesting subject as we have ever seen, the fault being the very

much too dark rock masses on each side of the fall. It is probably as good as could be obtained by "straight development," or without a longer exposure and manipulating the negative. By either of the following methods a better result might have been secured. A longer exposure and straight development continued till the rocky entourage was of sufficient density, and the recovery of the much over developed water by local reduction, or with the exposure that this has got, and slow development till the water was just right. Then washing and preventing further development of the water by painting with strong solution of a bromide; going over it with the point of the finger touched with glycerine, or as some have suggested, with oil, and returning the negative to the solution till the sides were sufficiently developed. And there is still a third way; local intensification of the negative, taking this print as a guide; the only difficulty being with the bridge, although it *could* be managed.

H. B. M.—See "Answers."

1573. Fred Chaston—"Lonely Path on the Wissahickon" is a good subject from probably the best viewpoint, but



the technique is sadly at fault, the values being seriously wrong and the lights and blacks—they cannot be called shades, scattered all over the print. Se-

lection of light, so that there may be proper massing and contrasting, is as important as selection of subject. An exposure that would have enabled you to stop development before the lighted parts of the fence and the sky were, in the negative, perfectly opaque, would have given a much better result, and truer values. By "shades" here we refer mainly to the under parts of the fence which are almost as black as the paper can be made, and which, contrasted with such parts of the same as are in direct light, and simply white paper, cannot evidently anything like correctly represent the subject. The objectionable whites are a result of over development rendered necessary by an exposure not long enough to give the necessary shadow detail; hence the statement that longer exposure, certainly not less than twice what this got, and shorter development would have made this, a really good subject, a fine picture.

1574. H. F. Porter—"The Ploughman" is better in aim than in execution, the result being an excellent illustration of what was wont to be called "straining the lens," which in this case means the employment of a lens of much too short focus for the size of the figures. What tempted you to go so near as to cut the horses in half and give a perspective that seems ludicrous we cannot understand. Your viewpoint should have been such as to have included both man and horses in a space of not more than two-thirds, and less would have been better, and then



the perspective would have been such as to show the foreground and distant objects in something like their relative sizes. Then, the focusing is at fault, especially for a subject of this kind, the

near horse, for example, being known to be such only from "circumstantial evidence." If you have another opportunity of photographing such a subject include both horses and man; employ a lens of much longer focus; focus better on the principal object, and do not print in the sky so deeply.

1575. J. N. Barnes.—"The Birches" would have been more effective if deeper printed, and still better for a longer exposure of the plate from which the negative was developed. The three principal trunks are simply white paper, while the branches coming out from them are merely black lines; and the



glimpses of the sky seen through the branches and scattered all over the upper parts of the print are as spots of light from a pepper box. With an exposure long enough to give true values—the natural gradation in lights and darks, this might have been a very attractive picture—but surely you can see the all too great contrasts as well as we; the utter absence of any shade between white and black.

1576. Geo. E. Fitch.—"Lady Dainty," The head and shoulders of a fine Persian cat is an almost faultless photo-

graph, on which one can feel the softness of the fluffy, woolly hair, and imagine just what she or he is thinking. To the owner of this pet, as pet it surely is, the picture must be simply invaluable, and it is highly creditable to the photographer. The only fault is the useless, and therefore hurtful, mass of light in the foreground which *will* attract and keep the eye from the really intellectual face of the cat. Local reduction of this objectionable light on the negative to a shade lower than the lips of the cat would be a decided improvement.

1577. Wm. H. Craig.—"The Winding Road" is a good example of a difficult branch of photographic work; landscape under snow, although the "winding" is not much in evidence. It is sufficient, however, to give the charm incident to most winding ways, and has, in addition, that rarest of its kind, sufficient exposure to give something like true values to the snow and its sur-



roundings. Selection and execution have resulted in the production of one of the best snow scenes that we have seen during the season.

1578. T. B. Gotham.—"The First Snow" is one of many such, in which their authors seem to think the mere fact of the ground being covered with snow gives them interest, the subject generally being such that without the

white mantle they would never have considered it worthy of a plate. Here we have an uninteresting expanse of foreground, too grey to look like snow, and with a few greyer lines across that may be shadows, although their source is not seen; and in the distance a number of perfectly black vertical lines representing trees. Both exposure and development have been at fault, the former too short for the trees and the latter not carried on in a way to truly represent snow. It is a difficult subject and a good test of the ability of the photographer; but needs more thinking out than this has got.

1579. W. J. Burgess, Jr.—“Busy Times,” a cobbler repairing a shoe, is one of the best things that have come to the Portfolio for a long time, and is in the true sense of the word a picture. Pose, expression, and lightning—the

light coming from the single window before which he works, are all admirable. The only improvement that we can suggest is that the head is too fine to be covered with the cap. If you have the opportunity, try again without it. You will see that we select No. 1, the window, showing the source of light, is too valuable a feature to be trimmed off.

1580. C. H. Brooks.—“Frost” needed just a little longer development to make it technically perfect, although the subject has little claim to the pictorial; it is, indeed, one that but for the snow and frost, you would not have thought worth photographing. A little intensification would give the much needed contrast, and make it almost perfect as a “record of fact,” but of a fact hardly worth photographing when the pictorial is the aim.

Our Table.

Books for reviews and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y. During March to Clifton Springs, N. Y.

THE Figures, Facts and Formulae of Photography, compiled by H. Snowden Ward. London (for The Photogram), Dawbarn & Ward.

The object of this really valuable compilation is shown in the following first paragraph of the preface: “Photographic possibilities are so rapid that the man who would make the best possible use of its many methods, each with merits of its own, must have encyclopedic knowledge. To attempt to remember all details is a waste of time, and this book is planned to save such waste.” We may say at once that it is admirably planned, and answers its purpose perfectly.

It is divided into thirty-eight sections such as “The Studio,” “Work Room,” “Bromide printing,” “Ferric processes,” etc., etc., including even “Wet collodion,” and under each heading is a description of almost everything necessary and how best to use it.

Opening the book at random we come on “Intensifiers,” and find a few rules generally applicable to all methods followed by no less than thirteen formulae from which to choose.

In addition to formulae for every process or method, the book contains tables for nearly everything that can be tabulated, so that it may be called “The Photographer’s Look Within,” and he will hardly ever look in vain.

The “three Fs” will be found as useful to the expert as to the beginner, perhaps even more so, as after it has been in his possession for a week he will wonder how he ever got on without it.

* * *

THE PHOTO-MINIATURE, No. 45, has for its subject “More About Orthochromatic Photography,” and may be considered a continuation of No. 6, on “Orthochromatic Photography,” the first (No. 6) giving the practice, the second (No. 45) dealing mainly with the theory; and we may say at once that, from our point of view, it is the very best of all the preceding forty-four numbers.

Where all is so good and so seasonable; seasonable because the time is at hand when only plates that are more or less color sensitive will be employed, it is difficult to select any statement or

item for special notice; but we must congratulate the author, R. James Wallace, on his method of adjusting the color filter to any particular brand of plate, and express our admiration of the patience and perseverance required for the formation of the absorption and transmission table on page 425.

There are few would-be color photographers who have not wished, and alas! wished in vain, for a fairly workable spectroscope; but, thanks to Mr. Wallace, they need wish no longer, the directions, beginning on page 414, being so simple that they may, each for himself, make one at a cost of less than \$5.

There is just one statement on which we should like a little more light. Speaking of diffraction gratings, and showing that the breaking up of the beam of white light into its various wave-lengths is a result of its falling at an angle on the "scratches" of the grating, he adds, "We may, incidentally, note that the beautiful iridescent coloring of mother-of-pearl is simply due to the fact that its surface is cov-

ered with minute but irregular scratches." Hitherto we, and we had supposed everyone, had believed the colors of mother-of-pearl were, like those of the soap bubble and the Lippmann photographs, due to lamination and had nothing to do with "scratches."

Be that as it may. "More About Orthochromatic Photography" should be carefully studied by every photographer who aims at keeping abreast of the times, as the general public will not much longer be satisfied with the false rendering of the ordinary plate.

* * *

TONFIX-PAPER.—Just as we are about to go to press there comes from the Reinschild Chemical Company of New York a sample of Tonfix-paper that should be invaluable to photographers who want to print while on tour, or amateurs who want now and then to tone and fix only one or two prints at a time with the least possible trouble or inconvenience.

We shall put it to the test of practical work and tell all about it in our next.

Letters to the Editor.

Regarding Snow Pictures.

Dear Sirs: I am still in the market for a nice snow scene. Not like the one that you give us in the January number by Engeln, where one can't be sure whether it was intended to represent a snow scene in a pitch dark night or a clam flat by moonlight, but a scene that looks like snow, real snow of the white kind that we have down here in Maine, snow that you could rub over your face and clothes without fear of smooch.

Something that will represent the beauties of a Maine winter as we see it when everything is so white and clean that we long to be out of doors with our sleighs or our snowshoes. And if we have a picture of a snow scene by moonlight let us not have one that calls to mind the old gag about a blind nigger hunting after a black cat in a dark cellar, but one that will call to mind Lowell's

"God makes such nights, all white and still,
Fur'z you can look or listen,
Moonlight and snow on field and hill,
All silence and all glisten."

I don't believe that the majority of us want the picture of the baby to be taken always when it is crying, neither do we want these abominable results that we get from spoiled negatives labelled "A Gray Day," "When the Shadows Are Long," "Moonlight on the Frog Pond," etc.

I sometimes smile at the idea of the old time photographer saying, "Look pleasant, please," but just the same that is just what I want to say to the landscape. I want to see the beauties of nature, and if I see a picture I want that to look beautiful too and cheerful, and as we see it when we admire it most. It does seem to me as if most photographers were afraid their landscapes would look too cheerful and to tone them down had rubbed them over with a gray made of gray dog and molasses.

Please give us the cheerful and I will continue as in the past to swear by the "AMATEUR PHOTOGRAPHER."

Yours respectfully,
WILLIAM H. BLACAR.

[We think we have said before that one sees in pictures mainly what one brings to his examination of them, and believe that a more careful study of the one referred to would induce our correspondent to change his mind regarding it. Snow scenes are confessedly difficult subjects, and we are as anxious to reproduce the best as he is to see them. He should remember, however, that they, like all other pictorial representations, affect different people in different ways, and even in art "One man's meat is another man's poison." We aim at pleasing all.—Eds.]

More Light Wanted on a Light Subject.

To the Editors AMERICAN AMATEUR PHOTOGRAPHER.

Referring to Mr. Liscomb's description of his "Dark Room Light for Amateur Photographers" in your February issue, he does not tell us much of anything regarding his home made cell. The statement that it has to be recharged on an average of twice a month, is meaningless. The occasion for recharging will depend entirely on how often it is discharged. In other words, how frequently it is used.

While in his case he may recharge twice a month, the next fellow would quite likely have to do so twice a week. I would like to know the capacity of his cell in ampere hours. Unless this

is known, it will be entirely a matter of guesswork as to when he will find himself "where Moses was when the light went out."

I would also like to know what convenient method he has of recharging his cell when exhausted, also why he finds it necessary to go to such a bother of having "a tumbler, a chemists' test tube, a 10 per cent. solution, etc.," in order to obtain a red light when he can as readily obtain an electric bulb of ruby glass, and of any desired density? A simple switch is all right, but why four ohms of resistance? How much light does he get with "four volts tension" and .5 ampere?

When Mr. Liscomb states that dry batteries can be used for this purpose, I am inclined to think that he has never tried them. If he has, he will not do so again. No open circuit battery can be used with any degree of satisfaction for this purpose.

Electricity is the ideal light for the dark room, but I hardly think, from such a source as described by your correspondent.

I am, however, interested and would like some particulars.

AMATEUR ELECTRICIAN.

[Will Mr. Liscomb kindly reply, and in the meantime we may say that the ruby bulb suggested by our correspondent is useless, as it transmits far too much both blue and green.—Eds.]

Answers to Correspondents.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Clifton Springs, N. Y.

S. ATKINSON.—A good varnish for bromides and many other purposes may be made as follows:

Borax	60 grains.
Shellac (picked pale yellow)	120 "
Soda carbonate.....	20 "
Glycerine	60 minims.
Water	2 ounces.
Alcohol	2 "

Boil the borax shellac and soda in the water till dissolved, and when cold add the glycerine and alcohol. Add a

little clean white sand, shake well, and after standing three or four days filter.

GEO. W. HORTON.—The following is the velox formula and should answer admirably for all developing papers. It may be used for plates and films with a "factor" between 11 and 13, depending on the kind of negative you want; but never forget that the result is largely dependent on something like correct exposure. We prefer about one-fourth more than is indicated by the Wynne meter:

Metol 7 grains.
 Sodium sulphite..... $\frac{1}{2}$ ounce.
 Hydroquinone 30 grains.
 Sodium carbonate..... 400 "
 Bromide of potassium (10
 per cent. solution)..... 20 minims.
 Water (distilled)..... 10 ounces.

First dissolve the metol, then add the other ingredients, shake at intervals until all are dissolved, and then filter. If distilled water is not obtainable, water that has been boiled and allowed to cool may be substituted; ordinary tap water should be avoided.

W. W. WYCKOFF.—We have been unsuccessful in our search for the information you seek, or indeed to learn more of the process than is to be found in our January number. The only mystery or trade secret is the emulsion with which the plate is coated, but so far as we can see from the "working instructions," simple gelatine as employed in the "swelled gelatine" method should answer the purpose. Any good printers' ink, although it may need thinning down in the ordinary way. We are at present too far from home to refer to such articles as might be helpful, but shall keep you in mind, and advise you of any further information that we may gather. You might write to the trade agents, Penrose & Co., 109 Farringdon Road, London, E. C., who, if there was a probability of a demand, would doubtless appoint an American agency for the material.

J. G. RICHARDSON.—(1) Edinol developing powders may be made as follows. In one paper, edinol 10 grains, sodium sulphite (dried), 50 grains; and in the other sodium carbonate (dried), 60 grains, the two to be dissolved in four ounces of water. (2) Intensifier powders may consist of uranium nitrate, 50 grains; acid citric, 50 grains; potassium ferricyanide, 50 grains; the uranium and acid carefully dried and wrapped in separate waterproof papers, and the three into one with instructions to dissolve in five ounces of water. We do not approve of this, however, and hardly think you will manage the drying without injury to at least some of the salts. (3) The best reducer that you can keep in powder is ammonium persulphate, and the strength anything between two and five per cent.; say, powders of 60 grains to be dissolved in four ounces of water.

J. BREVORT COX.—We cannot say who was the maker of the lens, but from the description should say that it is of French or German origin. Are you sure the figures are F. fractions? as they are more likely to be an indication that each stop requires just twice the exposure of its predecessor. Such lenses were wont to be made in large quantities in France without maker's name, and the name of the dealer generally engraved instead. They were not all alike, although some were equal to the best of the better known makers. You may easily, by measurement, ascertain the focal fraction of each stop, if you are sure of the focal length of the lens; F.6, of a 10-inch, for example, would be a little over an inch and five-eighths.

H. M. B., or H. B. M., the one being on the postcard, the other on the back of the print. It is evident you do not read the magazine carefully, else you would have known that while we are willing to notice prints under initials or a *nom de plume*, we must have the name for our own satisfaction.

I. K. P.—Your letter came too late for the article on development and so is noticed here. If you refer to anything that we have said you must have misunderstood our contention, as the treatment indicated, viz., a solution "weak in reducer but strong in bromide, and with four times the normal amount of water," would not be the best for over exposures. The tendency, as you say, on over exposures is to want of contrast, to a too great deposit in the shadows and too little in the lights. Hence the addition of bromide to hold the former back, and the increase of the reducer to more rapidly build up the latter.

During the last decade, mainly through the teaching of Watkins, development has been better and better understood, and we should not now recommend the addition of water, at least not to such an extent as formerly; much more depending on time and temperature than on variation of the formula.

Briefly, for known under exposures, the best thing is to throw the plates into the ash barrel, the next best to develop in a solution weak in reducer and com-

paratively strong in alkali, but without bromide; to stop development as soon as the lesser lights are strong enough, and trust to after treatment of the negative for its improvement. For over exposures the reverse condition with the addition of bromide, and the action continued till sufficient contrast is obtained.

See also notices of the employment of the recent addition to the *materia photographica*, Acetone sulphite, in this and previous numbers, as an aid to the development of over exposures.

EMMA GRANT.—Various substances have been, from time to time, proposed as eliminators of hypo, the most recent being the "iodosal" to which you refer, but the hypo or the constituents thereof are not removed, only re-formed into something else, and sometimes something not less injurious than itself, and something that must be removed by washing. The best eliminator, therefore, in our opinion, is sufficient washing for which see article on development on another page.

CATHERINE RANDALL.—We have never been troubled by stains when using Farmer's reducer, but you will find the following excellent either for local or general reduction:

Potassium ferric oxalate..	50 parts.
Sodium sulphite.....	40 "
Distilled water.....	1,000 "
Dissolve and add oxalic acid	15 "

Ordinary water will do if free from salts of lime.

MARY H. WATSON.—The print is silver, not platinum, as you will see from the white mark in the corner. The result of a touch with a solution of mercuric chloride. As the contract was for platinum you may safely refuse to pay, even any price for them. The print is returned as requested, but you forgot to enclose stamps.

W. H. CRAIG.—The following is given as a method of blue toning for bromide prints:

Ten per cent. solution	
uranium nitrate.....	½ ounce.
Ten per cent. solution	
ammon-citrate iron.....	½ "
Ten per cent. solution	
potass ferricyanide.....	1 "
Ten per cent. solution	
acid nitric.....	1 "
Water to make.....	20 ounces.

Immerse the prints till the desired color is obtained, and wash till the whites are clear.

Another authority recommends:

Ten per cent. solution	
ferri ammon-citrate.....	½ ounce.
Ten per cent. solution	
potass ferricyanide.....	½ "
Ten per cent. solution	
acid acetic.....	5 ounces.

Immerse and wash as in the other. The prints should be on the weak side, as the toning is said to vastly increase the density.

We may add that, contrary to our usual method, we give those without having tried them.

W. R. RYLE.—We know of no reason why Cramer's "medium Iso" and "crown" should not be as amenable to time development as any other plates on the market, although we have not used either since we adopted that method. It should be understood, however, that the factors are indicative rather than imperative, and may with advantage be lowered or heightened according to circumstances, and the result desired. The higher the factor with any particular developer the greater the contrast and *vice versa*.

With ortol, and a fairly correct exposure there is no need for bromide in the developer; in fact, it is better without it, and from what you say as to the factor of 10 giving too great contrast we are inclined to believe that your exposures are too short. Try leaving out the bromide and giving 15 or 20 per cent. more than is indicated by your Wynne's meter; and if your results are still too contrasty reduce the factor to 8 or 9.

W. C. WEBSTER.—Taking your last question first, we reply that personally we do like to see "some part of the picture in focus, and the rest just sufficiently so as to lead up to it," but art is largely a matter of taste and temperament, and, as has been often said, one sees in a picture just what he brings to it. Those that you condemn in our February issue were considered works of art to an extent at least sufficient to gain admittance to the Chicago Salon, which should be a sufficient answer to your question. We agree with you in thinking that the picture on page 59 unmistakably conveys the impression of a man smoking.



**"THE
READER."**

Hon. mention, Wilkesbarre Exhibition.
R. S. Kaufman

THE
AMERICAN AMATEUR PHOTOGRAPHER.

VOL. XV.

APRIL, 1903.

NO. 4.

Minor Photographic Competitions.



Miss E. W. Nott.
'LIZBETH.

ALTHOUGH we have more than once called attention to the evils resulting from what may be called the minor photographic competitions, a letter from one of our readers shows that it is still as rampant as ever and induces us to return to it again. The writer, however, refuses permission to print it, but although thereby made to deal with it impersonally and so less forcibly, we hope to turn it to good

By "minor" photographic competitions we mean those organized for advertising purposes by the lay press, dealers in "drygoods," etc., and by the smaller provincial photographic societies. All such competitions, in fact, where a certain number of prizes are offered and *must* be awarded altogether irrespective of the quality of the work and without any standard; the duty of the judges being confined to the decisions as to the few that are better, or, in too many cases, that are less faulty than the rest.

The competitors at such competitions rarely include experienced photographers, and still more rarely any of the few who know the difference between a photograph which is also a picture and a mere photograph; and the competing prints to which prizes are awarded are, in nine cases out of ten, only the best, or what the judges consider the best, of a poor lot; and of the exceptions, the best that can be said is that they hardly ever reach beyond fairly good records of fact.

But they do a great deal of harm to the so-called fortunate ones. They have reached the goal of their ambition; the all too favorable criti-

cism of their friends has been corroborated, and they lie on their oars ever afterwards. This is no mere fancy picture. During the last two decades we have had many opportunities of watching and rejoicing in observing what others were doing, and ambition enough to desire to climb to their level, more anxious to have their faults pointed out than their beauties praised; looking on each advance only as an incentive to strive for something still higher, till their work now is appreciated and hung by the most exacting juries in this and other countries. And we also know many who, mainly through the influence of the false encouragement of injudicious awards and all too friendly—not criticism, but undeserved praise—have never got, and in consequence of an ignorant and egotistical appreciation of their own work, do not aim at getting above a very low rung of the artistic ladder.

Our only object in writing thus is, if possible, to prevent such a calamity overtaking our correspondent and the thousands like him who are being misled by supposed honors, as we know that he at least is both anxious and able to reach a high standard, the only thing needful being to get him out of the influence of mistaken appreciation.

That mistaken appreciation of one of his prints had induced him to send it direct to our publishers in the hope that it would be reproduced in the magazine. It was forwarded to me in the usual way, and in "Our Portfolio" was said to be "technically a good photograph without a trace of artistic or pictorial value." It was simply a record of a fact that may be often seen on a farm, and in the arrangement of which, or in any of the after operations there was not the least indication of effort or aim.

In his letter he gives as his reason for supposing that we are mistaken in saying that the photograph "has nothing of the pictorial," the fact that "it has been awarded prizes in several photographic contests judged solely on its artistic merits," at one in which there were 1,800 entries and twenty prizes; the third, and the fifth at another, with "thousands" of competitors; while at still another, this time a newspaper looking for illustrations, although it was not awarded a prize, they kept it for some time, at least so they say in a post card, with a view to its reproduction, but had not been able to get from it a satisfactory plate, adding, "It is the best of the ——— pictures we have had." The fact that he sends this as a testimonial to the value of the photograph shows that our friend has something to learn of editorial courtesy to the rejected.

That there was no difficulty in making a satisfactory plate from the photograph our correspondent can see from our reproduction, nor need he wonder "why we reproduced it, if it is as bad as we say." Our illustrations, or at least some of them, are not inserted for their good qualities



"THE YOUNG
VIOLIN MAKER."

GEO. A. BACKMAN.
Third Chicago Salon.

either in technique or art, but quite as much and as often to show what to avoid as at what to aim, and at the same time to make our criticism more helpful.

We hope it will be understood that the above has not been written in defence of our criticism. We never do that. We say again what we have often said before. We claim no special knowledge of art, and our criticisms are worth no more than those of the other fellow. We know what we like and what we dislike, and try to find reasons for both. Our only object is to be helpful to our readers, and although, as our correspondent truly says, "We cannot all of us be a Stieglitz, a Steichen, or a Kasebier," and "the true artist is born, not made," we can, if we study hard, work perseveringly, and steer clear of such injurious influence as unwarranted appreciation, so that none of us will be long satisfied with such a photograph as that which has inspired this article.



Minneapolis Salon.

"RANCHEROS."

By Oscar Maurer.

Special Subject Series.—IV. Intensification and Reduction.

BY DR. JOHN NICOL.



Blue Ribbon,
Wilkesbarre Exhibition.

C. O. Thurston.

"NARCISSUS."

IN the three previous articles of this series, including exposure, development and fixing, with the subsequent washing and drying of the negative, it may be said, if all has gone well, to be finished and ready for printing, if nothing beyond "straight photography" is the aim.

But all may not have gone well. There may have been sufficient under-exposure and over-development to have resulted in too great contrast, or *vice versa*, resulting in flatness; or, the negative may be too thin or weak to give a sufficiently vigorous print or so dense as to occupy an altogether unreasonable time in the printing. Or, supposing the technique to be perfect, something beyond the mere "record of fact" may be the aim of the

operator and he desires to have recourse to one or more of the various methods of "improving the negative," or altering it in whole or in part so that it shall give prints more in accordance with his impression of the subject.

Intensification is probably more frequently necessary than any other operation, and it may be wholly or in parts; but before having recourse to it or indeed to any other modification, it is advisable to make a print,

as it is not always easy by a mere examination of the negative to judge as to its printing quality.

There are many different intensifiers, some better suited to certain purposes than others, but there are a few general rules equally applicable to all. The negative should be soaked in water for at least half an hour, and, if there be any doubt as to its having been thoroughly freed from hypo by the washing after fixing, it should get another half hour, during which the water should be changed several times. Between the several stages of the operations the plate should be thoroughly washed, and where the water is hard or contains chlorides and silver or mercury is to be employed, the last water should be rain or distilled. It is well



Minneapolis Salon.

Misses W. and G. Parrish.

"SLEEPING GIRL."

also, after the washing after each stage, to swab the surface with a tuft of cotton. Some samples of gelatine are so hard, especially if the negative has been dried for some time, as to resist the half-hour soaking, and only become soft enough after thirty minutes' soaking in a solution consisting of glacial acetic acid 30 minims, water one ounce.

For general or all over intensification nothing is better than the popular bleaching with mercuric chloride, and blackening with one or other of the many substances that have been from time to time recommended. Where only slight intensification is required, and especially for lantern slides that should be particularly brilliant, a 10 per cent. solution of sodium sulphite answers admirably. Next in order is ammonia, 20 minims of the "stronger" to the ounce of water, and for the greatest pos-



Minneapolis Salon

By H. F. Smith, Syracuse, N. Y
"FISH MARKET, CHINATOWN"
SAN FRANCISCO CAL.

sible effect at a single operation, a 10 to 20 grain solution of "Schlippe's salt"—sodium sulphantimoniate. But by far the best blackening agent is the ordinary ferrous oxalate developer, especially as almost any desired density may be obtained by repeating the bleaching and blackening as often as may be necessary.

As the mercuric chloride solution will keep indefinitely, a stock of about 10 grains to the ounce of water, say, 100 grains in 10 ounces, to which is added 20 minims of hydrochloric acid may be prepared and used over and over again as long as it continues to bleach in a reasonable time. It is said that the addition of an equal quantity of potassium bromide to the mercuric solution tends to increased density, but I have never found it necessary. The soaked and softened negative is immersed in the mercuric solution till sufficiently "bleached" or whitened, the degree of whitening depending on the amount of intensifying desired; if little, little more than surface whitening; if much, whitened through and through, and then washed, as already said.

For the ferrous oxalate developer two solutions are required, both of which will keep indefinitely. Potassium oxalate, $2\frac{1}{2}$ ounces; water, hot, 10 ounces; and ferrous sulphate, $2\frac{1}{2}$ ounces; water, hot, 10 ounces; sulphuric acid, 20 minims. Just before using add one part of iron solution to five parts of the oxalate, taking care not to reverse the order of mixing, and pour it with a sweeping motion over the bleached and washed negative, which will be blackened through and through in a few minutes, and only needs washing to complete the operation.

For local or partial intensification one of the one-solution and one-operation intensifiers is to be preferred. The commercial "Agfa," 1 to 9 of water, leaves nothing to be desired, but for those who prefer to make their own and like to know what they employ, and my sympathy is altogether with them, Lumiere's mercuric iodide method will be found admirable. It is as follows: Mercuric iodide, 45 grains; sodium sulphite (crystals), 880 grains; water, 10 ounces.

For local intensification the intensifier may be applied by means of a camel-hair brush, although I prefer a tuft of cotton, and by a circular motion, close to running water, or with water in a dish into which the plate may be from time to time swilled so as to watch the progress of the operation. In this way dark foregrounds, dark foliage, or any other darks, may be lightened and the whole negative brought into truer values, and needing, as in general intensification, only well washing to be complete.

Not less important in the improvement of the negative is the power of reduction, although with a careful and experienced operator, local is more frequently required than general.



Portfolio No. 1576.

LADY DAINTY."

By Geo. E. Fitch.

The most popular reducer is undoubtedly that known as "Farmer's," consisting of hypo and potassium ferricyanide, made just before using. Stock solutions of hypo 1 in 10, and of 40 grains of ferricyanide to the ounce of water may, in the dark, be kept indefinitely, and a sufficient



Minneapolis Salon.

By Arthur Wilde.

'THE ART STUDENT.'

number of drops of the latter added to as much of the former as will cover the plate to give it a pale, yellow color. The deeper the color the more rapid the action, but if approaching the orange it is apt to stain the film.

For general reduction the plate is immersed in the solution and examined from time to time till the desired result is obtained ; but where, say, much reduction is needed, it may be necessary to make a fresh solution, as it soon gets exhausted.

Local reduction is best secured by applying the solution on a tuft of



Minneapolis Salon.

"BRUCE."

J. M. Tallman.

cotton as in intensification, and only those who have tried it know how easy it is to vastly improve most negatives.

The present tendency to under-expose and over-develop results in contrasts far too great ; roads, roofs of buildings, and much that should not be higher than middle-tint or half-lights, being as if covered with

snow; all of which may be brought to a satisfactory, if not correct tone, by a few minutes careful and intelligent work.

Ammonium persulphate is also a valuable reducer, especially in consequence of its selective qualities; its action, for some not well understood reason, being greater on the lights than on the shadows, thus considerably lessening the too often objectionable contrast. As it does not keep well in solution, it should be dissolved just before use—from 10 to 20 grains to the ounce of water, and the well soaked plate immersed in it. It should be rocked and examined from time to time, and when sufficiently reduced, transferred to a five per cent. solution of sodium sulphite to stop further action.

Another excellent reducer for either local or general reduction is the acid permanganate recommended by Dr. Namias. Two stock solutions—one a 20% of potassium permanganate, the other the same strength of sulphuric acid, both of which will keep indefinitely. The reducer consists of 20 minims of the former and 40 minims of the latter added to five ounces of water. An excess of permanganate or too little of the acid will tend to the production of a brown stain, which may be removed by immersion, in a solution consisting of sodium sulphite, 60 grains; acid oxalic, 12 grains; water, one ounce; or, in a 30 grain solution of acetone sulphite.

The film is also amenable to mechanical reduction, and considerable improvement may be effected by a tuft of cotton or piece of cloth moistened with alcohol. By pretty firm rubbing, and freshly moistening the cloth or rubber from time to time, over developed lights may be reduced to their proper tone, and even a suggestion of clouds given to an otherwise opaque sky.

Reduction and intensification, and both, are often required on the same negative, need practice before their best can be reached; but they are worth all the trouble they entail, as he who can efficiently apply them can often transform a worthless negative into one that will give prints of almost perfect technique.

I shall speak of improving the negative in the next.

Several entries have been received for our 1903 Lantern Slide Competition and a few workers write that they are preparing sets. Knowing that there are thousands of lantern slide makers among our readers, we expected more active interest in this competition. When it is understood that a set for free circulation among our readers is the ultimate end of this contest we believe that many more will participate in making it a success. Such a collection of slides makes a delightful evening's entertainment and is always welcomed at the club. Will the lazy ones wake up!

The Simplicity of Gum-Bichromate.

By JAMES ROSS.



Folding Pocket Kodak.

W. Walter Dinwiddie.

"THE FIRST LESSON IN KODAKERY."

"THEY came to scoff but remained to pray," fairly represents the attitude of many pictorial photographers towards the apparently intricate but really simple gum-bichromate as a printing method; and I am not ashamed to confess that for a long time the scoffing period, born only of ignorance, remained with me.

Nor was I altogether without excuse. I may have been unfortunate, but so it was that the first results, and indeed very many after the first that I happened to see were far from encouraging. Later, however, less than a year ago, indeed, I came to see that they were by the more ad-

vanced pictorialists, so far advanced that I was not sufficiently cultured to follow them, and seeing at the same time some fine work by the lesser lights, took courage to try, and the very first trial made me a convert.

Gum-bichromate is not a universal printing method. It is not suited for all subjects or for all negatives, but where there is simplicity and breadth in sizes of $8\frac{1}{2} \times 6\frac{1}{2}$ and upwards, direct or enlarged prints by it have a charm altogether their own, and afford an opportunity for individuality greater than any other method.

I am not quite sure that it does not savor of presumption for one with less than a year's experience to turn teacher; but from the first I met with such a measure of success, and withal so easily, that I am anxious to encourage others, especially as in every step of the progress I have simply followed those that have gone before, and do not claim one spark of originality.

While almost any kind of paper will do, there are certain qualities

that the beginner at least should endeavor to secure. It should be tough enough to stand the necessary handling, which is considerably more than in either the printing out or developing methods. It must not be so hard or smooth as to make coating difficult, nor so porous as to absorb or let the coating sink too much in; but a few trials will show just what



Minneapolis Salon.

"EARLY SPRING."

By Malcolm Chandler.

surface is best. Till that experience is acquired I may say that most of Whatman's or Michallet's drawing papers, to be had at any artist's materials store, will be found all that can be desired; or, failing these, the sizing of almost any good paper will make it almost as suitable.

For sizing a weak solution of gelatine is generally employed, but

arrowroot is better; half an ounce to a pint of water. It should be beaten into a cream with a little of the water, the rest added, and brought to the boil. When cold it may be applied with a sponge or tuft of cotton, going several times, first in one direction and then in the other, and it saves a little future trouble to pencil mark the non-sized side.

The quality of the gum is of less importance than is generally supposed, so long as it is the genuine gum arabic, and in round, clean "tears." To make the solution I select an eight ounce wide-mouth bottle, of the tall rather than the squat variety, and place in it six ounces of water. Two ounces of the gum is then tied loosely in a piece of thin muslin and suspended in the bottle so as to be about two-thirds covered by the water. Solution begins at once, as may be seen by the heavier liquid descending, and if kept at the ordinary temperature of the room may not be complete for 24 or even 48 hours; but the keeping qualities of the solution will be greater than if the time had been shortened by heat. When all that will has been dissolved, there will still be a quantity of gelatinous matter in the muslin, but on no account must it be squeezed out, as the semi soluble matter thus added to the solution would be injurious. With the addition of a few drops of carbolic acid and a good cork the gum solution will keep for months.

Neither do I find the selection of the pigments such a serious matter as some of the writers would lead us to believe. Tube water colors are convenient and save the trouble of grinding, but I think the cheap colors in powder take a better grip and give richer images. The best prints I ever made were with mixtures of common lamp-black, red ochre, sienna, umber and Vandyke brown, the only objection to their employment being the necessity of rather carefully grinding. This may be done with a stiffish spatula and a sheet of finely ground glass, the powder mixed with a little gum solution and rubbed with the spatula till smooth, but I prefer a glass paper weight in the shape of cone with a base of about one and a half inches in diameter, bought in a stationer's for 25 cents.

The sensitizer is a 10 per cent. solution of potassium bichromate, and whatever be the pigment or whatever the method of preparing the coating, it may be useful to keep in mind that the right strength or proportion, or at least a strength of coating that answers very well, is equal parts of that and the gum solution.

In preparing the coating I measure the gum solution in a cup from a toy tea-set that holds exactly one ounce, it being easier to get it all out of this than out of a conical graduate. From 20 to 30 grains of the color or mixture of colors in powder is placed on the slab—the ground surface of an "opal" answers well, and enough of the gum added to moisten it, and work the paper weight "muller," aided by the spatula, as I had seen the painter's apprentice do in the long, long ago, as long as any grittiness remains, or till it is perfectly smooth, adding more and more gum till it is like a thick cream. It is then transferred to a squat teacup and one ounce of the bichromate solution gradually added, working it in with one of the brushes to perfect homogeneity. Of course, it will be understood that this mixture should be used all at once, or rather only as much as is to be used at once should be made, as notwithstanding what has been said to the contrary, it will not keep, and I may say here

that after each operation, both or all of the brushes should be thoroughly cleaned before putting them away.

Not the least important are the brushes; one about two inches wide and soft for laying on the coating, the other, unless for small work, twice that breadth and of what is known as "badger" or an imitation thereof, for softening. I say an imitation, if it can be got, as badger is expensive to a degree that only one with a pretty full purse will care to invest in it. But its purpose is to soften or smooth the coating, and as upon the perfection of that operation much of the success depends, the cost should not be allowed to stand in the way.

The paper I am using at present comes in sheets of about 17x22 inches, and I cut that in two, coating pieces of about 17x11. The sheet is fastened to a drawing board by drawing pins, one at each corner. The coating brush—mine is camel's-hair, but I have been told that "hog's" is better—is filled with the creamy mixture, which has been transferred to a saucer as more convenient, and with even strokes, first one way and then the other, drawn all over the paper. It is easier to do than to describe, but I may say that all three joints, wrist, elbow and shoulder, take part, and unless the surface of the paper is too smooth, there is really no difficulty to speak of.

By the time the whole surface has been covered the paper will have expanded to an extent that makes it necessary to remove three of the pins and tighten it, and then comes the most important and the only really difficult part of the work, the softening. The softener is held exactly as I hold the pen in writing, and the motion confined altogether to the wrist, bringing only the points of the hair in contact with the coating, more like stippling than painting.

If much of the coating has been laid on, and too much is less of an evil than too little, the softener will soon have taken up so much as to require washing. This I do at the tap, drying on a soft cloth, and continue the operation, the strokes or touches gradually becoming lighter and lighter, till the surface is as smooth and free from markings as if it had been floated.

Just how thick the coating should be is most easily learned by experience, but as, unlike ordinary carbon, development begins from the exposed surface, it must be as deep; that is, as dark on the paper as the deepest shadow on the intended print, *and it should not be deeper.*

While it is true that the bichromate colloid is not sensitive while wet, I always do the coating in subdued light, indeed generally at night, and hang the sheets to dry in the dark room.

Exposure should be made with some form of actinometer. I employ the Wynne's print meter, all my negatives as soon as made being marked with the time taken to give a print on solio, not the over-printing required for a print that is to be toned and fixed, but to the extent only that a finished print should be, and that is pretty near right for either carbon or bichromate.

Development may be conducted in various ways, and is modified according to the extent of the exposure. I began by floating the exposed sheet on water at the ordinary temperature from the tap, and prefer an exposure that will admit of complete, or nearly complete, development

in that position in from five to ten minutes; although I do not generally allow it to go so far. By turning up a corner from time to time I see how it goes, and at the suitable stage depending on what I really want to do to modify the otherwise plain outcome of the negative, gently withdraw it from the water and pin it up to dry.

The modifying operation might be done at once, where the exposure has been long enough to admit of it, but generally, and especially when it has been such as to, in my opinion, admit of the best result, the image is too soft, too easily washed off to make it safe. But after having been dried and again moistened by immersion in water, the desired modification may be made with safety.

The moistened print is now placed on a sheet of glass, the lower end of which rests on the bottom of the developing tray, and supported by the left hand at a suitable angle; or, better still, in some other way so as to leave both hands free. In this position, and with water at various temperatures, camel's-hair brushes of various sizes, and a rubber syringe, I can do practically anything I like.

Gum bichromate, wrought in this way, is just the opposite of the method of the painter. He makes a picture by laying on material, and his work is fine art because of that. Photography, in the gum bichromate, lays it on, and the photographer, equally by the work of his hand, makes a picture by taking off all that he does not want; and as both are equally the work of the brain guided hand, their claim to be or not to be works of art depends on the quality of the brains and not on the methods.

The Kodak Cases in England.

The verdict in the long and closely contested suit by the Eastman Kodak Company against several English manufacturers for alleged infringement of their copyrighted trademarks, "Kodaks," "Brownie," "Bull's-Eye," etc., has been rendered. The decision of the judge, Mr. Justice Swinfen Eady, who took great pains to bring out all the points in the case on both sides, is wholly in favor of the Kodak Company and is so succinct and far-reaching in its scope that it is thought there will be no appeal. Briefly stated, the bone of contention was that when customers of certain houses asked for a "Brownie" film or a "Bull's Eye" film, meaning, of course, a film to fit a Brownie or Bull's Eye camera, they were supplied with other makes of film which were got up in size and requirements to fit these cameras. The Kodak Company stated in their complaint that they had no objection to the general use of the trade names, which they claimed as their own property, if they were used in a certain manner. For example, if the film was said to be a film for an F. P. K. or Brownie as the case might be, but if a customer asked for a "Brownie" film he must be supplied with a Kodak make of film. The decision of the judge was fairly rendered and establishes a precedent. Having coined certain words and registered them as descriptive of certain goods of their own manufacture and created a demand by extensively advertising the same they are justly entitled to protection in the benefits to be derived therefrom.

The Passe-Partout.

BY JESSIE MACFARLANE.



HOSE who have not seen a passe-partout—mounted photograph at its best—have no idea how beautifully decorative they can be made; and those who have not tried to so mount them are equally ignorant of the simplicity of the operation and the variety that can be given to the finished pictures.

The passe-partout, in its simplest form, consists essentially of a sheet of glass, a properly trimmed photograph, a piece of stout cardboard, and a binding strip either of paper or tape to fasten them together. Few photographs of small size, however, look well framed close up and, especially if they are to be hung on obtrusive wall paper, but need

something in the shape of a mount to separate them from it.

And great variety can be given to the mounts. They may be plain cardboard of a marginal width, according to taste, and of any color or shade that will best harmonize or contrast with the photograph, and the latter may be placed centrally or eccentrically, as whim or caprice may suggest.

Mounting on various colored papers in what has been called the "American style" is also effective. On a suitably tinted mount giving a margin of a half or a third the breadth of the print, one, two or more pieces of colored paper are successively pasted down, each a little smaller than the one below it, the upper being just a little larger than the print. This affords scope for the exercise of both taste and skill, but in the absence of these essential qualities it gives opportunity for egregious blundering.

A safer and, on the whole, more satisfactory method, is to employ a cut out mount, and while they are on the market in all shades and sizes, it will be easy for any one to make them for herself. Then they, and this applies equally to the cut out and the American mount, may be ornamented with lines, scrolls, or corner pieces, although, as a rule, I like them better plain, and the ornamentation may be in various colored inks.

The glass may be old cleaned off negatives or spoiled plates where they are to be found large enough, but where a few cents is not an object they should be got from the glazier, as free from color as possible, and he will cut them to size for very little.

The binding strip may be of paper, although I prefer tape when it can be got in suitable colors, which may be either complimentary to the mount or in harmony with it. An inch is a convenient width, and if a good, stiff and very adhesive paste, such as Carter's, or Higgins', be

employed, and the first coat allowed to partially set before applying a second, the binding will be an easy operation.

Before binding, however, two slits should be cut in the backboard for the insertion of tapes and rings by which to suspend the mounted photograph, and the ends inside the board fastened by a touch of paste or glue, and to facilitate the binding all of the four elements, glass, mount, photograph, and backboard, may be so fastened together by a touch of paste at the four corners of each so as to be a solid block.

The binding strips are cut in two pieces of the exact length for the sides, and two pieces for the top and bottom about an inch longer than the breadth. The "block" is laid, first on one side and its strip applied and well rubbed down, then the other side in the same way, and lastly the top and bottom, the four projecting half inches being snipped off with sharp scissors and finished by a touch with the thumb and finger.

In this way photographs that might lie unseen and practically valueless may, at a cost of a few cents each, and by a little pleasant work, be converted into decorations that would brighten the walls of many a room—your own as well as those of your friends, or into very acceptable presents to those who could not make them for themselves; presents all the more highly valued because they were all the work of your own hands.

Notes.

RAPID COLLODION EMULSION.—Henry O. Klein, writing from Penrose's experimental laboratory to *The British Journal of Photography*, says that by the addition of certain aniline dyes collodion emulsion may be made as sensitive as some of the most rapid dry plates on the market. The following paragraph from his letter will be of great interest to those who know the advantage, for certain purposes, of collodion over gelatine: "The addition of certain aniline dyes—for instance, those of the 'Rosaniline' order, of Toddessine and Rose Bengal, of Diazoamido dyes—increase the speed of ordinary collodion emulsion from $f/14$ Wynne to $f/45$. After a treatment with a very weak nitrate of silver bath, we obtain a speed of $f/111$, and even higher numbers can be reached."

DRYING CARBON TISSUE.—It is well known that carbon tissue often suffers from the time taken to become dry after sensitizing in the alkaline bichromate, especially in the hands of the amateur with no special means for that purpose. Quick drying would also, where a print may be wanted in a hurry, be a decided advantage. Herr Blochmann, in the *Photographisches Centralblatt*, suggests what it is somewhat surprising has not been proposed long ago, dehydration by alcohol.

After sensitizing the tissue in the usual way, he blots off the surplus liquid, places it in a tray and covers it with alcohol; the German so-called "denatured" for economy's sake, and gently rocks the tray. In a few minutes most of the water will be displaced, but if very rapid drying be desired, a second application of the alcohol may be made. Even with the one immersion the tissue will be sufficiently dehydrated to admit of

its drying in less than an hour in the atmosphere of the dark room, or it may be dried by a few minutes exposure in front of a fire.

Such rapid drying will prevent many of the failures incident to carbon printing, the only objection being the cost of the alcohol, a cost reduced to the extent of 75 per cent. at least to both Britons and Germans, the one getting "methylated spirit" and the other "denatured alcohol," both free of duty, and both answering the purpose as well as the pure spirit.

PLATINUM TONING.—Professor Namias, in *Photography*, comes out strong against the employment of acid phosphoric in the platinum formulae, saying that it has no chemical reducing action, does not combine with the chlorine of the platinum salt, but that it may do so with platinum itself, such combination being the cause of the yellow deposit so often found, the yellow on the prints, and the rapid deterioration of the latter. Oxalic acid, he says, has none of these faults, and at the same time gives greater activity to the solution. The following formula will be found all that can be desired:

Potassium chloroplatinite	15 grains.
Distilled water	30 ounces.
Acid hydrochloric (pure).....	75 minims.
Acid oxalic (crystallized).....	150 grains.

Of this he says, speaking of comparing it with a similar formula but with phosphoric acid instead of oxalic, "in every case this bath shows itself to be more active than one made with phosphoric acid. Toning is effected more rapidly, the color is better, and one never gets any yellow markings."

ACETYLENE BY DRY GENERATION.—Occasional users of acetylene, photographers and lanternists who employ it for enlarging or in the lantern, will be glad to know that there is a possibility of their getting rid of the sloppiness and other troubles incident to generating it in the usual watery way, and at the same time getting a purer article and one free from the liquid hydrocarbons that so soon and so frequently choke up the burners.

A company has been formed in London, and it is too good a thing not soon to find its way to this side, to exploit a method of dry generation, "The Acetylene Dry Generation and Residues, Ltd.," and the following is what the editor of *Photography* has to say as the result of a visit to its office:

"The apparatus used was exceedingly simple; equal quantities of granulated carbide and of some other substance referred to in the works as the 'reagent' are emptied into an india rubber bag, which is then closed and shaken for a few seconds. By the time half a minute has elapsed, it is evident that the gas is coming off freely, and in another half minute the operation is complete. Very little heat is generated during the operation, the gas bag never becoming more than pleasantly warm to the hand. It is claimed that by this process the gas is given off in a high state of purity, free from explosive phosphorous compounds and the liquid hydrocarbons which choke up the burners.

"The gas as it comes off is certainly very free from the obnoxious smell characteristic not of acetylene itself, but of the bye-products which usually accompany it.

"On opening the exhausted gas bag the residue is found in the form of a dry, gray powder useful for cleansing purposes, containing as it does calcium oxide, caustic soda, and carbonates; but these vary with the reagent used. The gas bag we saw in operation contained only about one-third of a cubic foot of gas, and, although this would be large enough for occasional use—say, for the supply of a number of burners in making a studio exposure—it would be altogether inadequate for the supply of a lantern during a lecture, for which purpose from two to five cubic feet might be wanted.

"To photographers and lanternists, the chief values of the process—and they are by no means slight—lie in the absence of free water, the convenience and simplicity of manipulation, freedom from explosives, purity of the gas, comparative absence of smell, and the ease in getting rid of the residues. We hope to see a well-devised apparatus for photographic use placed upon the market shortly, as up to the present apparatus specially suitable is not supplied."

In the absence of anything better why should there not be a revival of the old fashioned gas bag? It only needs something in the shape of an easily made gas-tight aperture large enough for the insertion of the material, to be all that can be really necessary for a night with the lantern.

We have pleasant—although they were anxious times—recollections of many, sometimes long, railway journeys, accompanied by a pair of well filled bags, and could tell of several rather critical positions in which they placed us, and can well understand the security and comfort that would arise from the carrying of an empty bag and a pound or two of the dry carbide and "reagent," with nothing to do but turn the latter into the former at the journey's end.

THE DEVELOPING MACHINE.—The controversy regarding the developing machine still goes on across the water, but we think, in the following from *The Amateur Photographer*, F. H. Evans puts the matter in a nutshell. Speaking of roll films he says: "I think, seeing how difficult and worrying they are to handle, and the carelessness with which they are usually exposed, that a normal developer, at a proper temperature, for a reasonable length of time, will, in the hands of any, amateur or professional, get as good, and mostly better, results out of them, as any amount of separately fussing over with different solutions. As it is now, the average amateur exposes very careless and ignorantly; and if he continues to fail to get uniformly good results by machine developing, he will be driven to look more carefully and seriously to the conditions under which he exposes; then, given twelve sound exposures on his spool, the machine development will do better for him than his attempts at controlled developing.

I also advocated the weakening or other altering of the solution for the machine, if a run of under or over-exposures were known to have occurred. This is control in the direction Mr. Bennet advocates; and that, plus the machine's cleanliness, regularity, freedom from chance of fog, or pinholes, or other defects the personal handling is so liable to induce, will certainly give the best chance of getting the best out of his spools.

Yes, if a cathedral interior, and a landscape, and a portrait have each

had a sound, healthy full exposure, they may be developed in the same solution, for the same time, given, of course, that each is on a similar batch of emulsion, and therefore of the same character as to density giving. Each exposure being a sound one and proper to its subject, normal density would be reached at the same time, though I should prefer, in large work, to do each separately for convenience sake.

The trouble really is that workers will not be careful to expose only under perfect conditions of lighting; and the result is that the great majority of exposures are haphazard and under faulty conditions of lighting; and the largely fallacious controlled-development theory is had recourse to, to mend matters, to make the best of a bad job. Better far learn to make sound exposures, and when a plate is seen to be badly exposed to give it up, "varnish it with a hammer," and work only from the properly exposed negatives that occasionally come along to encourage one. There would then be fewer thousands of unprinted negatives, and work generally would gain in quality and enjoyment. The time spent, or wasted, in patching up a bad negative into the semblance of a good one is better spent in learning what a properly full exposure is, and what are the proper conditions to expose in.

Certainly, "suitable exposure and suitable development;" but each has to decide what these words are to imply, circumstances do so alter cases. Certainly I never suggested "to expose to suit a mechanical method of developing." I advocate exposing to suit the subject, and only to expose when it is a proper and perfect condition of lighting.

SUBMARINE PHOTOGRAPHY.—Italy has another inventor whose name seems likely to become as famous as Marconi's. Sig. Pino's inventions, described in the *Contemporary Review* by Dr. Carlo Iberty, promise to give mankind a complete sovereignty of the seas—of all the wealth as well as all the scientific mysteries hidden in their depths. They include a submarine boat and a new photographic apparatus of wonderful power, which he calls "the hydroscope."

The boat is a small affair, devoid of utility in war, but capable of carrying two persons to any depth, and of being held there immovable and in perfect equilibrium for any length of time. Its two occupants can work in it on the bed of the sea for twelve hours continuously without needing to return to the surface for air. Every object is clearly seen from it at any depth through windows made of special crystal, and it can move freely on the floor of the ocean on an ingenious single-wheel propelled by an electric-driven screw.

The hydroscope enables its operator, standing in an open boat on the surface, to take clear photographs of the sea's bed and all the objects thereon for an extensive area around the operating point. It illuminates the depths and brings their contents within reach of the camera.

If Sig. Pino's claims are made good the incalculable riches buried since time began in the fathomless caverns of Neptune, including the great Athenian sculptures sunk in the Archipelago in the Pompeiian wars, will be recovered without great difficulty. The addition in that case to the world's stock of gold will be enormous.

Lantern Slides from Drawings, Etc.

By HAROLD BAKER.

LANTERN slides from diagrams, maps, drawings, etc., are often required, and present many difficulties to those who are unaccustomed to prepare them. It sometimes seems quite impossible to get the lines dark enough without degrading the brilliancy of the whites. Of course to the old collodion worker it is quite easy by means of re-development and intensification to produce a copy of a plan with sharp black lines (really black, not a dirty brown) with perfectly clear glass spaces between them. But as the collodion worker scarcely exists outside the conservative process block, or professional lantern slide makers, we need not consider him. The everyday photographer is often at a loss when he is asked to make such slides, and probably they give him so much trouble that he becomes discouraged.

To such a man Cramer contrast or Carbutt's B plates should be a "boon and a blessing," for they will help him to do the work with ease. In the first place, his negatives should be made on process plates, the black lines should be clear glass and the white spaces nearly opaque. If the drawing to be copied is too weak to give an ideal negative, much can be done by intensification.

The exposure for process plates must be full, if good density is to be obtained; it is useless to give a short exposure and expect to get a vigorous result. In a good light, with $f/32$ the exposure will be from thirty seconds to a minute, the developer should be sparingly diluted with water, and should contain a fair proportion of bromide; but any developer which gives density will give good results. The image should begin to appear quickly, say, within thirty seconds or less; development should be prolonged until the white parts of the drawing appear on the back of the plate, and if the dark lines are slightly veiled it does not matter. If on examination the dark lines appear much veiled in the negative, reduction with *very weak* ferricyanide reducer will clear them without apparently affecting the denser parts. If the plate has been over-exposed, or over-developed, the very fine lines will sometimes be blocked, and may even almost disappear; here again very weak ferricyanide will effect a cure.

When the drawing is soiled or creased it is almost hopeless to obtain a negative which will give a good slide on a lantern plate; but by using a process plate for making the slide excellent results can be secured from decidedly poor negatives. A hydroquinone developer should be used, and the slide may be slightly over-developed and cleared with very dilute ferricyanide and hypo. Most of the creases and dirt on the original drawing will be absent from a slide treated in this manner. In making the negative a full exposure must be given; under-exposure produces flat, weak negatives.

Title slides are often useful for a lantern evening, and it is more restful to the eyes if they are made with the letters showing light on a black ground. Slides with black or colored letters on a clear glass ground are very trying to an audience if they come after a series of ordinary lantern

slides. The former are easily prepared. The words should be written or printed in the deepest, dead black on a smooth white card; this card is then photographed on a process plate $3\frac{1}{4}$ inches by $3\frac{1}{2}$ inches, but the exposure must be under rather than over, as there must be no deposit of silver on the spaces representing the black letter. The slide should be developed carefully so as to obtain the fullest density in the spaces round the letters, but the letters themselves must be represented by "bare glass."

It is almost impossible to get sufficient density in the background by development alone, and development must be stopped as soon as the letters show any sign of veiling, as it is more essential to have clear letters than to have a dense background. The exposure is of the greatest importance, as it must be sufficient to give fair density in the background, yet not enough to veil the letters.

A perfect slide is scarcely ever obtained by development, so recourse must be had to intensification. After thorough washing the slide must be bleached right through with mercury, and, after another thorough washing, blackened with dilute ammonia. The slide should not be dried in spirit as this tends to damage the clearness of the letters.

When dry the letters may be tinted various colors. One method of doing this is to superimpose slips of colored gelatine, but a better result is obtained by staining the film with the liquid colors sold for tinting photographs. Three colors will be sufficient—red, yellow, and blue. A special brush should be kept for each color, and the red brush should never be put into the blue bottle, and so on. The colors may be washed right over the letters, as the background should be so dense as to be disregarded. Two or more coats may be necessary, and if it is desired to produce more than three colors, several other shades can be obtained by washing a word over with blue first, allowing the color to be absorbed by the film, and become half dry, when a wash of yellow over it will produce green; red on blue will produce violet, while red and yellow will give scarlet or orange. Different greens and violets can be produced by using the two colors in different proportions. The colors should never be mixed together before putting them on the slide; but each color should be washed on separately. If, for instance, green is desired we may begin with a faint wash of yellow, followed after a few minutes by a wash of blue; this may be rather too blue, and a second wash of yellow can be laid on, or *vice versa*. Mixing the colors before applying them produces muddy, dirty results. The letters on the slide will be reversed, but this can, of course, be put right when it is placed in the lantern.

It is not necessary that the dark parts of the slide should be absolutely opaque. Those slides which show best on the screen, even when electric light is used for projection, are those in which the letters are quite clear, and the dark parts not dense enough to prevent showing where the color has been washed over the letters when held in the hand; such a slide will show the letters quite bright on a pure black ground.

A pretty title can be made by putting black letters over a landscape. This is done by writing or printing the title on smooth, pure white card, or Bristol board, using Stephens' ebony stain for ink. A negative the proper size is made from this on a process plate in the usual way, and a slide also

on a process plate is made from it. A lantern slide of a suitable subject is then made, but it should be delicate in character, so that it may not obscure the black letters of the title; this slide is used as a cover-glass to the black letters.

Another method which scarcely comes within the scope of this article, is to make a bromide enlargement of a suitable subject and fasten upon it rustic letters made of moss-grown twigs. These may be attached to the enlargements with needle points such as are used by cabinet makers.—*Ilford Photographic Scraps.*

Application of Acetone Sulphite.

BY T. THORNE BAKER.

THOSE who buy their sulphite, i. e., their sodium sulphite, in fairly large quantities, will probably have noticed on the label the words, "This article spoils on exposure to the air," or something similar. If the cork be left out of the bottle, as it sometimes is, or if the solution be made up and kept for any length of time, the essence of the chemical is lost, and the crystals are useless in the first case—the solution has to be thrown away in the second. The reason for this is simple.

On exposure to air—even the air inside the bottle—all or part of the sodium sulphite becomes converted into sodium carbonate. For example, a large crystal will soon be covered with a flowery white powder—in chemical language, efflorescence takes place. When a solution is kept well stoppered in a bottle, part of the sulphite becomes transferred or oxidized into sulphate, just as sulphurous acid will become sulphuric on being kept. Sulphates cannot be used in development, as they oxidize the developing agent, whilst the reason for using sulphite is to prevent oxidation. Hence it is possible to defeat our own ends by using sodium sulphite in an impure state, and in consequence it is a general maxim that an amidol and sulphite developer must be made up just before use, and will not keep more than three days at the longest.

The advantages of acetone sulphite in this respect cannot be overlooked, especially as it can be used in every instance where it is customary to employ sodium sulphite. By giving a few outlines of the applications we have made with it, the reader will perhaps be helped in some measure when he comes to use it.

Although it can be obtained or made up in the form of a concentrated solution, there is no doubt that it is handiest in the powder form, as no allowance has then to be made for bulk when making up formulae with any accuracy. As a substitute for the sodium salt in developing solutions, between one and two parts are necessary for every ten parts of sodium sulphite or for every one part of metabisulphite. The following formula for a metol-hydroquinone solution, given recently by Naudet in the Bulletin de la Photo Club de Paris, shows some adequate idea of proportion:

Metol	5 grains.
Acetone sulphite	60 grains.
Hydroquinone	30 grains.
Boiled water	1 ounce.

For use take one part of the above, four parts of water, and add a saturated solution of potassium carbonate, drop by drop, during the development, as required. The following comparative formula will further illustrate this. To five ounces of water add—

A.—Sodium sulphite	150 grains.
Sodium carbonate	150 grains.
Potassium bromide (10 per cent. solution).....	10 drops.
B.—Acetone sulphite	15 grains.
Sodium carbonate	150 grains.
Potassium bromide (10 per cent.).....	7 to 10 drops.

B will be found to keep much better than A., both with and without the developing agent, which in this case is edinol fifteen grains.

It may be noted that in the case of amidol, acetone sulphite cannot be completely put in the place of the sodium compound, but when a small quantity is present, it preserves the solution to a great extent, and also effects a slight restraining action.

One of the great differences between modern developers and the time-worn ferrous oxalate is that, whilst the former must be alkaline, the latter is always used in an acid condition. A slightly acid preparatory bath is frequently employed as well as the necessary subsequent clearing bath. For this purpose, Suss recommends in the *Allgemeine Photographen Zeitung* a one per cent. solution of acetone sulphite, which greatly accelerates development. The same solution or, preferably, one a little stronger—say three per cent.—makes an excellent clearing bath for use after development.

A clearing bath is always necessary after developing either plates or papers with the popular metol-hydroquinone or "M. Q." solution, as a white sediment is deposited upon the film. The clearing bath is generally nowadays mixed with the hypo bath—that is, an "acid fixing solution" is employed. Such a solution may be prepared in a variety of ways.

For example, an acid may be added to the usual hypo solution. This at once produces both sulphur (as a white milkiness or sediment) and sulphuretted hydrogen—a gas that is unpleasant and deleterious at the same time. Sulphurous acid added to a solution of hypo gives the best bath that can be obtained by direct addition; the admixture with the fixing solution of a sodium sulphite and sulphuric acid, previously filtered, is perhaps the method most generally adopted, and this not infrequently gives rise to yellow staining of gaslight and bromide prints; all these disadvantages are obviated by mixing a very small quantity of acetone sulphite with the ordinary twenty or twenty-five per cent. hypo bath.

It is my own practice to throw a little dry acetone sulphite into the fixing bath just before use; the fixing bath will then be found to keep clear and colorless for several days, and fixation is not retarded in the way resulting from admixture of sulphurous acid. The acetone sulphite removes sediment from the plates, and gives pure whites on both plates and paper. Its great convenience here lies in the fact that the quantity

thrown in the bath does not matter at all, and I think that many amateur photographers, as well as scientific ones, can appreciate a haphazard operation which never goes wrong!

Negatives bleached in the mercury bath for intensification may be reblacked by various means. Ten per cent. solutions of ammonia or sodium sulphite have in later days replaced the earlier method of redevelopment. A good method of intensification, given in the Bulletin of the Paris Photo Club, in which acetone sulphite has been used for blackening with considerable success, is as follows:

Bleach the thoroughly washed negative in a solution of

Water	4 ounces.
Mercuric chloride	30 grains.
Potassium bromide	75 grains.

When quite white, the plate is well washed for about ten minutes, and then reblacked in a two per cent. solution of acetone sulphite.—*Photography*.

Photography With a Purpose.

By JOHN B. MACLACHLAN.

A paper read before the Edinburgh Photographic Society.

THE age we live in is particularly one of specialization. We have specialists in every walk of life. The man who aims at being what is known as a "good, all-round man" is usually left in the race by his neighbor who aims at doing *one* thing, and doing that one thing well. No matter whether we look at professions or trades, at sciences or art, at hobbies or work-a-day pursuits, we find the specialist is always the man at the top.

It is an oft-debated, and I sometimes think a uselessly debated, question whether photography is an art or a science. Some of us call it an art, some of us designate it a science, and some of us, with a desire to be right in either case, speak of it as an art-science; but whether it is one or other, or part of both, still the maxim holds true, in this as in other matters, the specialist wins.

Let us here digress for a little, and look at the great men of the past:

"Lives of great men all remind us
We can make our lives sublime;
And, departing, leave behind us
Footprints in the sands of time."

We will not take as examples those who had every encouragement to pursue a given path, those who knew not the cares and vicissitudes of life, and wandered on with nothing to disturb the pursuit of their pet hobbies; these men, great though many of them were, are not to be compared with those who, laboring under immense social, moral, or physical disadvantages, pursued the even tenor of their way, buoyed up by the one great aim of their lives. Those men, in most cases, had one single object in view; in few instances, did they aim at being Admirable Creichtons with universal knowledge; there was one special branch of study

which they desired to make their own, and steadily pursuing it, with singleness of purpose, they attained, often with many difficulties and trials, the desired haven. It was by diligent, unswerving industry that these self-made men succeeded.

Look at Hugh Miller—a pale, sickly boy of ten years of age, sent to work in the quarries, his hands blistered with the hard work of the pick and shovel. He heeded not; the labor, though hard, led him nearer his ambition, he truly found, “sermons in stones.” How he succeeded we all know, and the time came when Dr. Buckland remarked that he would give his left hand to possess the descriptive powers of Hugh Miller, stone-mason and geologist.

George Stephenson started work as a herd at twopence a day, but by-and-by his passion for machinery was gratified by an engagement as assistant fireman at a wage of one shilling per day. He learned to read and write at the age of nineteen, as he found the want of that knowledge frustrated his attempts at betterment; and in 1814 he completed his first railway engine, and took his place among the first men of the country. Singleness of purpose again.

But what need to tell of the poverty-stricken Brindley and his canals; Columbus and his discoveries; Newton and the law of gravitation; Watt and his steam engine; Wallace, Tell, and Garibaldi, and their struggles for freedom; Franklin and electricity; Wilberforce and the freedom of the slaves. The list could be extended *ad infinitum*.

Let us now look at our own particular hobby—photography. As in the various pursuits of these great men we have glanced at, so in photography. In its various sub-divisions singleness of purpose is the load-stone of success. We have the specialist in figure studies, in landscape, in scenes of rustic life; and, on the strictly scientific side, we have the microscopical and astronomical photographers, and these again are divided into various sub-sections, according to their several inclinations or abilities.

If we desire to raise ourselves out of the rut of what is known as “ordinary photographers” or makers of “the usual thing,” we must make some branch our own—make ourselves masters of it, so that in course of time we come to hold the proud position of authorities in that special branch of photography.

Let two photographers take a walk in the country—one is a “general utility” man, the other is a specialist. The “general” sets down his camera here and there, and takes various pictures that strike his fancy, he studies their lighting and composition, and produces, let us say, good photographs. Let us look at our specialist—his special hobby is, say, tree studies; he looks for tree studies, and tree studies only as subjects for his camera. The rippling brook, the busy laborer, and the straining team appeal to him, as to his brother photographer, but he heeds not the voice of the charmer, 'tis tree studies he wants, and tree studies he means to have. He knows, too, exactly what he wants, for he has studied his subject in spring, summer, autumn and winter; in the morning's haze, the noontide splendor, and the twilight gloom; in storm and in calm. He knows its various forms and moods, in fact, he knows his subject as a bosom friend. Is it stormy? Then on one negative he secures a storm-

tossed sky ; on another, the "brave old oak" boldly facing the blast stands forth in all its rugged grandeur ; he combines these in one harmonious whole, and who can say that his special study has not led to good result?

Again, it is a bright sunny day, the heart-break of the purely landscape photographer—with a few notable exceptions—but our "tree" student is ready. Has he not often studied the play of light on the branches and leaves of the silvery birch? To-day there is not a breath of wind to disturb its feathery twigs, "the air a solemn stillness holds," even those trembling tendrils seem for the moment at rest. In his cloud negative, he mayhap secures the light faintly indicated cloudscape of summer, or perhaps prints his tree with that finely graduated sky effect often seen on a bright summer day, and the result is a picture in every sense of the word—the tree is alive with a brilliant radiance, and the silvery boughs seem to speak of gladness and light. This may be taken to show only one of the sub-divisions of landscape work ; many others will at once suggest themselves to you.

Again, to take another sub-division, this time in figure studies or portraiture. The photographer who undertakes figure studies has a very large field when he undertakes the portrayal of the "seven ages of man," and in this case, as the unconscious humorist put it, "the man embraces the woman." Has he not a life study in one of these "ages" with more chance of success? Will he, think you, be equally successful in depicting the peach bloom on the cheek of the child, and the life story engrossed in the wrinkle and furrow of age? I trow not. No, no, if figure study be our special branch of photography, let us confine ourselves to one phase of it ; we may then in time become, to some extent, authorities in that particular phase. We will, at least, have a higher place on the ladder of fame, and the higher we go the more room have we to breathe—the top is never crowded, the crowd lingers at the foot. More and better than that, we shall feel that we actually know something—really *something*—of our study, and with that confidence born of knowledge our work must improve. Knowledge is power.

There are exceptions to the above laws, or rather indications of laws, but these only prove the rule, as the old saw has it. Everyone has his strong point, and it is worth some trouble to find out that and stick to it. Better be able to make a picture of a simple wayside flower, although it be that and that only, than take indifferent photographs of the Falls of Niagara and similar huge subjects.

And here, by way of encouragement, we may instance one or two from the vast army of photographers who owe their success in a great measure to the fact that they have followed photography with a purpose.

First, let me instance Sir Benjamin Stone, the high-priest of the Survey movement. The National Record Photographic Association, which he practically founded, and of which he is still president, is probably, with its numerous branches, the strongest object lesson in the field of specialized photography ; at least, certainly of specialized photography of the nature that any ordinarily proficient photographer can undertake, that is leaving out of the question micro-photography, astronomical photography, and the kindred scientific branches. Last year this association

collected and tabulated no fewer than 593 photographs of buildings and rapidly disappearing customs—the great majority being contributed by the president, who, it might be mentioned, gained the distinction in that series of clever contributions, "Behind the Speaker's Chair," in the *Strand Magazine*, of being baptized the Grand Old Man of Photography. I am glad to know that the members of your society are taking up this branch of photographic work. They have every prospect of a great success in a large membership of capable workers, combined with an entrancing field of work close at hand; why, "the Royal Mile" would of itself give a month's, nay, a year's study to the earnest worker.

Examples were then given of prominent workers, many of them members of the Edinburgh Photographic Society, who followed photography with a purpose.

But suppose the divisions indicated in the foregoing examples prove irksome or too circumscribed; suppose the photographer has no special leaning in any of these directions; suppose none of these subjects awaken any desire to "go and do likewise," he has still plenty of scope to follow photography with a purpose on other lines and in other themes.

Wynne's Infallible Exposure Meter Competitions.

We have pleasure in stating that the Wynne Infallible Exposure Meter Company have decided to offer four sets of prizes, each set consisting of one infallible exposure meter in solid silver and one in nickel silver for the first and second best print in each of the following classes, printed from negatives secured or timed by the use of the Wynne Infallible Exposure Meter between April 15 and October 1, 1903:

- (1) Landscapes, including all outdoor work except marines.
- (2) Marines.
- (3) Interiors, including all indoor work except portraits.
- (4) Portraits.

Pin holes or blemishes may be spotted out, but otherwise the negatives must be printed from as they were when taken from the drying rack.

Technical excellence only will be considered in making the awards, except in the case of a tie, when it will be given to the more artistic print.

On the back of each print must be noted the actinic time, plate and stop employed. Time of day, time of exposure, and light conditions, with name and address of competitor, and where a color screen has been employed that should be stated.

Any number of prints, preferably unmounted, may be submitted in each class, and they will be returned only in cases where stamps have been sent for that purpose.

The competitive prints must be sent, prepaid, to the American agent of the Wynne Infallible Meter Company, Henry Wenzel, Jr., 237 South Fourth street, Brooklyn, N. Y., from whom any required information may be obtained.

"ALICIA."
By George Donnehower.
Minneapolis Salon.



"READING OMAR KHAYYAM,"
By Amelia Van Buren.
Minneapolis Salon.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y. During April to Clifton Springs, N. Y.

1581. F. E. Weeks.—“When Winter Reigns” is one of the many subjects that never would have been thought worth photographing but for the snow on the ground and hoar frost on the trees, and even that does not give interest to this. Nor is it otherwise satisfactory, snow, frost, sky, everything



in fact except the trees, the fence, and one or two shadows, which are perfectly black, being one uniform tone, a light purple-brown. Snow is generally understood to be white, and we never yet saw a snow scene in which it and its sky were so exactly of the same tone. Both exposure and development have been such as to make true values, correct relative luminosities impossible.

1582. C. S. Cyrrell.—“The First Snow” is a fairly good rendering of a



difficult subject. The selection is fairly good, although the tree on the left, repeating the margin, is an objectionable feature, and the child in the trodden path is too close to the tree in the centre of the composition, the very worst place in which it could have been placed. While better than most snow scenes that have come to us this season, the contrast between the snow and the trees is much too great. For such a subject the exposure must be long enough to impress the trees, and the snow taken care of in development. In the light in which this was taken the trees were not nearly so black.

1583. Rev. S. S. Conger.—“Willows by the Watercourses” is a good selection and would have been improved, as you suggest, by the trimming of a quarter of an inch from the rather uninteresting foreground. Its principal



faults are lack of sufficient contrast and too great similarity of tone in sky and water, both of which might have been obviated by longer development. A slight intensification of the negative might be an improvement. The other print in out next.

1584. H. W. D.—“Backdoor View” is, as you say, a picture of no account, but it serves to show that you know both how to expose and how to develop a snow scene, the values of snow and ice and the near and more distant trees being more nearly true than anything that we have seen this

season. Although, as you say, the more distant trees are a shade darker than they should be, they are far, very far, from the usual blackness of the average trees as represented in most views of the kind. How to improve them had the picture been worth it, you may find in an article on another page. We congratulate you on your success and recommend you, in preparation for another snow fall, to look out for a subject that shall be truly pictorial. Wanting in the picturesque as this is, there is a charm in the distant atmosphere that is too often absent in more ambitious efforts.

1585. Douglas Bridger.—The nude does not impress us favorably, but for



that matter no nude made by photography ever has. This is a nude with an apron and something that may be a breastplate. The figure is seated on

what may be a stump, playing on a double pipe, after, but a very long way after, Gloeden. Not caring to trust altogether to our own judgment, we have consulted several artistic friends here, who, like ourselves, are in doubt as to the sex of the figure, and in no doubt at all as to the impossibility of saying what the horizontal line of lights in front of it may be. While we do not object to a reasonable diffusion, we think it has been carried too far in this, destroying texture to such an extent that there is no difference between the skin and the aforesaid apron and breastplate. Better focusing and more careful development would have given a better rendering, but as a rule the young men and maidens in this climate and at this time are not good subjects for photographic nudes, although we must say that this is one of the least objectionable that we have seen.

1586. John W. Woodward.—“Bridge in Central Park,” a snow scene of considerably more than average quality, but leaving much to be desired. The



selection is excellent and the atmospheric effect in the distance unusually good, but the effect is considerably marred by the perfect blackness of the branches in the immediate foreground and the perfect and unnatural whiteness of the sky. When you do so well you should not rest until you do better. Most of the information on the back is meaningless without a knowledge of the value of the aperture, the F value of the stop. The print is a strong endorsement both of the quality of the “Argo” paper and your skill as a printer.

1587. Mrs. W. F. Fairchild.—“Where is He?” Two men apparently on a hunting expedition, looking for something to shoot, and one pointing to “up a tree,” is better in design than in execution. Properly carried out, it should have come under the designation “figures with landscape,” the figures being the *motif* and objective; but they are hardly large enough for even “landscape with figures,” in which the latter are merely an accessory. Your idea would have been better realized from a considerably closer view point, or better still, from the



same point with a lens of considerably longer focus. Then, the lighting is at fault, the lights being all of about equal value, and equally scattered all over the print, instead of massed and contrasted. The arrangement or composition is satisfactory, but such a subject and arrangement should be studied under various lightings, that is, at various hours of the day, till the one is found in which the lights and darks are not scattered all over as they are here, but massed and contrasted, and especially varied in intensity or gradations. Here there are practically only lights and darks, instead of the necessary degrees of gradations of each between.

A lesser mistake perhaps, but still a mistake, is a neglect to see to the fitness of things. The dress and appearance of neither of the men are such as to suggest the hunter; and a “make-believe” is always fatal, no matter how otherwise perfect a picture may be. We have been at pains to point out those faults because in spite of them there is enough to show us that you need only to study a little more carefully to do very excellent work.

1588. W. H. Stanchfield.—“Asters,” a lady gathering a bunch of those beautiful wayside flowers has only one seri-



ous fault—placed so as to make her seem much too tall. Standing slightly bent, with her head within half an inch of the upper margin gives the idea that if she were to stand upright the head would hit the top, makes one feel, in fact, that she is too large for her surroundings. Instead of half an inch, the head should have been about an inch and a half below the top, and then we should have had for it nothing but praise. Pose and lighting are admirable, but we could have gladly spared an inch of the lower part of the immediate foreground and given it to the

space above the head. We are glad that you have found our criticisms of benefit, but you have not sent too many prints. So long as our friends confine themselves to one at a time and are willing to learn, we shall manage to find room.

1589. N. Barnes.—Of the unnamed print, several sheaves of what seems intended to represent rye, and which occupy almost the whole space, we cannot find a favorable word to say. The subject cannot, from any point of view, be considered worth photographing, and the photograph could hardly be worse. The rye itself and the stubble from which it has been cut are simply sharp white lines, as sharp and as white as if drawn by the finest pointed pen and the whitest of white ink, while what should be sky is simply the unaltered paper. But for the blackness of the few shadows we should have said that the fault in the technique was simply over-development, but it looks as if a too short exposure was also indicated. Reduction with ammonium persulphate might improve the technique, but nothing or no method of treatment could make the subject as arranged worth photographing.

1590. H. F. Porter.—"Portrait," the head and shoulders of a gentleman with



a hat, is one of the few really satisfactory attempts at portraiture that come

to the "Portfolio," and this is satisfactory in every respect, although the high light on the nose is just a little too pronounced, conveying the feeling that it is the result of retouching. If you can lower it a little you will have a nearly perfect portrait. The texture is admirable as is the feeling of roundness and separation from the background and the play of light and varying texture in the hat is simply charming. The mounting is also or rather was effective, but Uncle Sam's messengers have made sad havoc with the mount, crushing and breaking it into several pieces. Corrugated paper is not nearly strong enough to protect a mount of this size; it needs stout mill-board and as, with nothing more than title and name of sender, it is carried as second-class matter, it need not be considered too costly.

1591. J. W. Woodward.—"In Central Park" is one of those subjects that look well in nature but are always more or less ludicrous in a photograph; two prints in one, the upper half so perfectly reflected in the lower that it is quite as distinct and quite as much a picture upside down as in the right position. The photography is fairly good and would have been better if development had not been carried quite so far. The oval form is not so effective in this case as would have been an oblong, as then it would have made a fairly good decorative panel, and the hypo stain in the sky should have caused the rejection of the print.

1592. T. C. Fraser.—"The Bend," a snow scene that owes its interest or such as it has only to the snow, does not impress us favorably, there being no apparent object of interest, nothing on which the eye cares to rest as it wanders all over the print. Snow and sky are represented by a dull grey very unlike either, and trees by an equally dull black and although the arrangement is the best possible of the subject it suggests nothing. Study your subject thoroughly and never be satisfied unless you have some part or object of more importance than the rest, and see that your lights and shadows are massed and contrasted, not spread evenly all over the space as in this.

Prints are returned only when requested and stamps for their return enclosed.

New and Improved Apparatus.

Year after year, as we record the strides toward perfection attained by the manufacturers of photographic supplies and apparatus, we feel that the point must sometime be reached beyond which it is impossible to progress. Each succeeding year, however, chronicles advancement and 1903 gives promise of surpassing all previous records. It is now up to the photographer to show results worthy of the tools at his command. It must be admitted that photography, from a technical and artistic standpoint, has not advanced during the past twenty years in equal ratio with the improvements in apparatus.

Worthy of first mention in the records of this year's advancement is the introduction of the

Eastman Kodoid Film.

It is yet too early to render an opinion as to the various merits claimed for this film, but we know that Kodoid

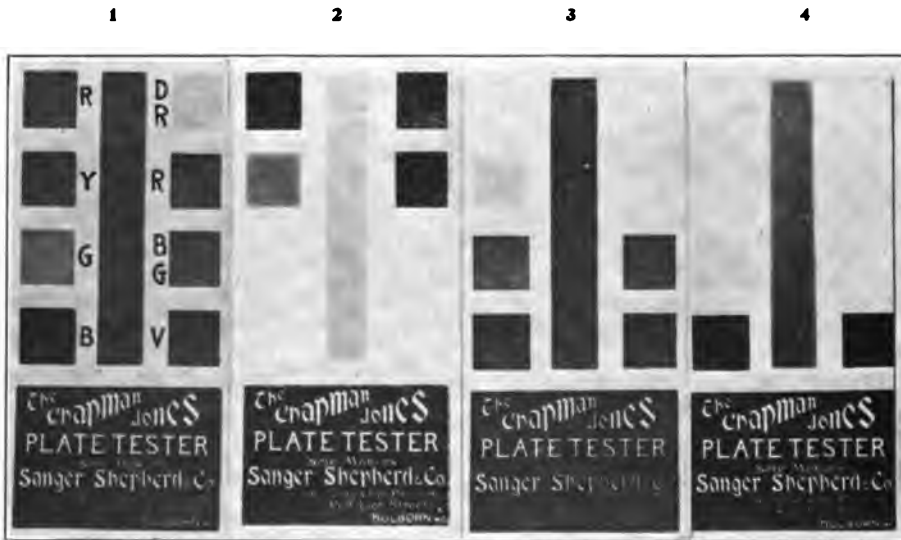
Film has borne the crucial tests of experts in their own factory before it was offered to the public, and the standing of the Eastman Kodak Company is sufficient guarantee for any claims put forward. Combining orthochromatic quality with lightness and portability and simplicity of manipulation, it will be hailed with delight by the tourist photographer.

* * *

Speaking of orthochromatics, or the true rendering of the color values of difficult subjects, suggests the

Carbutt Polychromatic Plate.

Specimens of its work being shown in our three last issues, our readers have since shown us many more remarkable evidences of its power. Before the Photographic Society of Philadelphia, on February 11th, Mr. Carbutt delivered an interesting and instructive address in which, after giving due credit to the pioneers in orthochromatic photography, he gave some idea



1. Normal exposure of 20 seconds 42 inches from 16 C. P. lamp, without light filter.
2. Exposure 12 times normal through red light filter, for blue printing plate.
3. Exposure 8 times normal through green light filter, for red printing plate.
4. Exposure 3 times normal through blue violet light filter, for yellow printing plate



Fig. 1.
Single exposure to
Sun's Spectra of Poly-
chromatic Plate.



Fig. 2.
Three alternate expo-
sures to Sun's Spectra
through Carbutt's
Measured Light Filters.
Ratio: Blue, $1\frac{1}{4}$; Green,
4; Red 6, and rendering
the Clerk-Maxwell
Color-Curves.

SPECTROGRAPH ILLUSTRATIONS SHOWING SENSITIVENESS OF POLYCHROMATIC PLATES TO THE COLORS OF THE SPECTRUM.

of the amount of patient research and costly experimenting he had gone through to produce a plate capable of taking all colors from the blue to the red of the spectrum. He showed on the screen a number of slides that proved beyond a doubt the success of his efforts, and which, in the opinion of the members of the society, was a distinct advance over any results hitherto shown. We are privileged in showing the above reproductions of prints from the Polychromatic plate. The first set of four, made through the Chapman Jones Plate Tester, show that the plate is sensitive to the whole range of the spectrum, and invaluable to the three color worker as well as to the photographer who aspires to perfection in his work.

In the two photographs of the rays of the spectroscope, the color values, from the deep red to the ultra-violet, show that the polychromatic plate is capable of rendering effects that could only hitherto be obtained by the use of carefully corrected filters and with a corresponding increase in time of exposure. The fraternity is deeply indebted to Mr. Carbutt and he should have their hearty support.

The Rochester Optical Company

Have added several new features to their already well known line of Premo and Poco cameras, notably the Premo Supreme, the Pocket Premo and the Star Premo. These latter are now rendered doubly valuable by the advent of the Premo Film Pack and Adapter. The Premo Film Pack is an ingenious and simple contrivance holding twelve cut films which are changed after each exposure in a manner that is both simple and certain. The picture may be focused on the ground glass between each exposure, and alternate pictures made on plates or film as desired. The film pack adapter permits the film pack being used on any plate camera; thus the amateur, without increasing the bulk or weight of his outfit may make an extended journey with the certainty of securing as good results as if he used all glass plates, focusing before each exposure. Two Premo Film cameras of excellent workmanship and extremely low price are also shown for the first time. The well known Snappa camera of last year will become more popular when it is known that the picture may be focused on a ground glass. This important adjunct is a feature of the 1903 Snappa.

Space will not permit further review, save to say that the slides of the Premo plate-holder are now procurable as one solid piece of rubber and the annoyance of the broken flanges thus avoided. Two other new articles are the Premo Tripod (the fact that it has been christened "Premo" is sufficient encomium), and the Premo Daylight Developer, a device for developing a plate in full daylight, which strikes us as being too ingenious to become very popular. There are many other good things in the Premo and Poco catalogues which may now be obtained of all dealers or of the Rochester Optical and Camera Company, Rochester, N. Y.

Century Cameras.

Three years ago Century Cameras were unknown. To-day they bear an enviable reputation, and judging from the handsome line which we have been privileged to examine, they are entitled to still further laurels. The Century Grand has even received attention and has an additional swing-back, and the bed is constructed in a manner that is calculated to resist all atmospheric changes, while all the sliding surfaces are of metal, giving exceptionally free and easy movement.

The Century Grand Senior is a camera that must be seen to be appreciated. Perfect in all details of construction, with extreme length of focus it combines rigidity. For use with wide

angle lenses the bed is dropped entirely and a short supplementary bed with rack and pinion is slipped into place and automatically locks. When not in use it is carried in a little pocket inside the camera. The second illustration shows a double swing back in addition to the rack and pinion swing of last year, which is still maintained.



This is operated by a milled knob and screw which draws the parts so closely together when not in use that the division is not noticeable. The cut shows the enormous swing possible when both are used simultaneously.

The Century Anastigmat is also shown for the first time, and from all reports is a lens that will command attention; and the Century Curtain Slide Shutter, which has at last made its appearance, is an article which, as one purchaser said, was "worth waiting for." It is now well known that rapidly moving objects can only be successfully photographed with a shutter working at the focal plane, and the Century shutter is easily adjustable from 1-10 to over 1,000th part of a second. The width of the slot and the speed of travel are easily and quickly adjusted from the outside. It is strongly made, with the fewest possible working parts, and these and the pneumatic release are inside and thereby fully protected. It is light and thin and adds little to the bulk or weight of an outfit. When ordered with Century Cameras, the carrying case is made to conform to the size of the camera with shutter attached, thus allowing space for two extra holders at the other end. Those who have entered requests for a Century (1903) catalogue will be well repaid by its perusal. Apart from the



technical description of Century products, it is a work of art.

The Seneca Camera Company.

which some time ago absorbed the Sunart and the Bullard Camera companies' plants, have come forward this year with a fine line of cameras from the smallest hand camera up to the largest professional size. They also manufacture a full line of tripods, printing frames and other photographic paraphernalia and a copy of their catalogue will prove of interest to the purchaser of a single outfit as well as the largest wholesale dealer.

Automatic Focusing Enlarging Camera.

What with the Kodak developing machine and the Premo plate developer and the Automatic Enlarger, photography is getting to be almost entirely automatic in all its operations. What we now need most is an automatic exposur that will cut off the light from the plate when sufficient exposure has been made, and we will get that, too. The Automatic Focusing Enlarging Camera is all that its name implies. By means of a differentiating screw the lens is carried always at the proper point of focus between negative and sensitive surface, and besides being a time saver, there is no possibility of error save in over or under-exposure, and that is even provided for by a table of relative exposures which is affixed to the camera. The work which we have seen turned out with this useful instrument is beyond criticism, possessing an artistic quality and freedom from granularity not obtainable in the usual way. With a good lens and a small hand camera, the amateur or professional can now go abroad with some degree of comfort and with the knowledge that he can come home and exhibit his prints in 8x10 or up to 16x20 size as perfect as if made directly in a large camera.

KRUXO paper is by no means new to our readers, and we are pleased to say that it has been steadily improving in quality and meeting with deserved popularity. It works well with all kinds of negatives and yields brilliant and clean prints. Kruxo is a developing paper and is made in the glossy as well as the mat variety. On the mat paper the image stands out bright and it lacks

the sunk in appearance of some papers. The manufacturers, the Kilborn Photo Paper Company, Cedar Rapids, Ia., will be pleased to hear from those who would like to try the paper, and for ten cents will send sample package and developer.

* * *

LANTERN slide makers who are so far advanced in the art as to realize that a good slide is often marred by the mounting and that each slide should have its individual shape of mat, will appreciate the self-adjustable slide mat. This is an L shaped piece of buff-colored paper ruled in squares of one-eighth inch and by over-lapping two of these on the picture any size of oblong or square opening is easily and accurately obtained. It is the get-up of a well known lantern slide maker, L. M. McCormick, 220 Broadway, New York, and is sold in blocks of one hundred at a reasonable price.

* * *

DOUBLE weight special rough Velox is the latest and a most desirable addition to the Velox family. The stock is so heavy that no mounting is necessary and it should become popular for many purposes. For souvenir postal cards there could be nothing better or more artistic.

* * *

THE April number of Camera Craft is an industrial number and is of more than usual interest. It contains a complete and critical article on all of the new cameras and photographic apparatus to be marketed during the coming season, several interesting articles on the manufacture of various important photographic instruments, a series of portraits of the leading manufacturers and page after page of valuable information for the amateur, the professional and the dealer.

The usual features of the magazine are not neglected and although the size of the issue has been greatly increased the price remains the same, fifteen cents a copy.

* * *

To facilitate the cutting of oval or other shaped prints, Messrs. Burke & James of Chicago have brought out a very serviceable ball-bearing wheel cutter which comes with a set of adjustable flanges for leaving any width of margin. They also manufacture a full line of ovals and shapes which may be obtained of any dealer.

Society News.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Clifton Springs, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest to our readers.

Camera Club of New York.

On Friday evening, March 6, Mr. Frank Scott Gerrish, a member of the club, gave an entertaining talk on "A Trip up the Nile," illustrated by lantern slides from views he had made himself. His work was very creditable and his comments indicated that he was thoroughly familiar with the subject. There were numerous pictures of the ruins of Egyptian temples and tombs, illustrating the great size of their pillars, besides excellent views of Egyptian hieroglyphics, the meaning of which were fully explained. The trip took in views of temples cut out of solid rock on the banks of the Nile above the first rapids. There was a very large attendance and an interested audience.

The regular monthly meeting of the club was held on Tuesday evening, March 10, and was very largely attended. After the usual routine business the question of referring the matter of the discontinuance of the publication of Camera Notes to the Board of Trustees was voted down. Much discussion took place in reference to the cost of the publication and finally a vote was passed requesting a full report about it at the April meeting of the club.

Mr. Abel introduced to the club Mr. Condit who represented the Charity Organization Committee on Tuberculosis. He made a plea for the loan of lantern slides by the club or members of the club illustrating country scenes and life of all kinds. The object was by showing the tenement house people on the East Side what the country looked like it would create in them a desire to move there. He hoped members of the club would favor the idea and cheerfully loan slides.

The meeting then adjourned, but the members remained seated when Mr. Stieglitz arose and addressed the meeting and the treasurer, Mr. W. Wilmerding. He very nicely eulogized Mr. Wilmerding's career as treasurer of the club for the past five years and presented him with an engrossed eulogy of esteem suitably framed, followed by beautiful smaller substantial

gifts, which he drew from his pocket, in the form of handsome sleeve buttons and gold studs.

Mr. Wilmerding was somewhat bewildered at the unanimous feeling of regard so vividly shown and sincerely thanked all present for this unexpected showering of gifts. He had only done what he considered was his duty during the years he had held the position as treasurer, had been friendly to all, and worked for the good of the club. This mark of esteem he should always remember and cherish.

After the formalities there was a general handshaking and the entertainment concluded.

The club is to move to its new quarters, No. 5 West Thirty-first street, two blocks above the present quarters, on April 15. Instead of being all on one floor as at present, the club will occupy two floors in the new quarters, one floor is to be fitted up as a work room with lockers, dark room, enlarging rooms, etc., while the other floor is to be the club room for exhibition purposes, the library, committee rooms, offices, etc. It is in a new building, just completed. In addition to the two floors the club is to have a special portrait studio with skylight on the roof. It is probable the annual meeting, April 14th, will be held in the new quarters.

A special committee to solicit and receive subscriptions for meeting the expense of fitting up and equipping the new quarters has been appointed by the president. From March 10 to March 31 the last exhibition of prints held in the old club rooms occurred, and consisted of selected work by the California Camera Club, some of which were of excellent quality.

The Nominating Committee chosen at the February meeting of the club, has posted up the following nominations for the next club year, beginning April 14th next:

President, Chauncy H. Crosby.

Vice-president, Frank S. Gerrish.

Treasurer, H. T. Rowley.

Secretary, E. Lee Ferguson.

Trustees for three years, Malcolm Stuart, Dr. John T. Vredenburgh.

Third San Francisco Photographic Salon, 1903.

The California Camera Club and the San Francisco Art Association announce that the third San Francisco Photographic Salon will be held in October, 1903.

In order to encourage liberal contributions from pictorial photographers at home and abroad, and to save the expense of framing pictures that may not be accepted, as well as the greater expense of transportation, pictures suitably mounted or matted will be received from contributors in the United States, and such as are accepted by the Jury of Selection will be glazed by the Salon Executive Committee at the exhibitor's expense.

Foreign contributors may send their pictures either unmounted or matted, as they desire, and the management

will mount and glaze those accepted, and return the entire contribution to the owner after the exhibition, free of charge.

With the above-mentioned exceptions, the general rules which governed the second San Francisco Photographic Salon will prevail, the details of which will be set forth in the regular announcement shortly to be issued.

It is hoped that this early notice will result in the selection of dates for the holding of other salons will not conflict; in other words, that dates will be so chosen, as to allow sufficient time to intervene between the close of one salon and the beginning of the next to enable contributors to send their pictures in turn to the various salons.

Address communications to The Salon Committee, 819 Market street, room 58, San Francisco, Cal.

Lantern Slide Competition.

We print the rules governing this competition again and urge our readers to send their entries as soon as possible.

1. All slides must be $3\frac{1}{4} \times 4$ inches and must be bound and matted in the regular way, with the title label on the right hand end of the slide when looking at the picture in its natural position and the thumb label on the lower left hand corner.

2. Slides receiving awards will become the property of the AMERICAN AMATEUR PHOTOGRAPHER, and made up into a set for free circulation among our readers.

3. The original negative as well as the slide must be the work of the competitor.

4. No competitor can take more than one prize in any one class.

5. No entry form is required, but a list should be sent with each set and declaration made thereon that the negative and slide is the sole work of the competitor. A short description should also be given of any specially interesting or historical subject for use when the slides are being exhibited.

6. There will be six classes. Entry may be made for one or all, but each competitor must send six slides for each class in which he competes.

CLASSES.

I. Genre and Figure Studies (studio work debarred).

II. Landscape (with or without figures).

III. Instantaneous Work (objects in motion).

IV. Architecture (interior and exterior).

V. Botanical subjects and flower studies.

VI. Marines and cloud effects.

PRIZES IN EACH CLASS.

First Prize—Silver Medal.

Second Prize—Bronze Medal.

Third Prize—Certificate of Merit.

Any or all prizes may be withheld at the discretion of the Board of Judges if the entries are not of sufficient merit.

The judging will be done on the screen with the electric light by a competent Board of Judges, to be announced later and their decisions will be published in the succeeding number of the AMERICAN AMATEUR PHOTOGRAPHER.

All entries must be sent prepaid to the office of the AMERICAN AMATEUR PHOTOGRAPHER, 361 Broadway, N. Y.

Our Table.

Books for reviews and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y. During April to Clifton Springs, N. Y.

TONFIX-PAPER.—This paper, briefly noticed in our last, has now been thoroughly tested, with the result that we heartily recommend it as a most convenient method of toning and fixing prints when on tour or even at home when only a few are wanted.

It consists of a heavy "blotting" or unsized paper in cut sizes, apparently charged with the necessary toning and fixing material, and as it is quite dry and, so far as we can see, not deliquescent, *i. e.*, does not absorb moisture, it should keep indefinitely.

The method of using it is simplicity itself. A sheet the size of the print to be toned is placed in a tray, covered with water and the tray rocked for a minute or so. The print, direct from the printing frame, is then slipped under the water, preferably face down, and the tray again rocked for a few seconds. We noticed that in some cases, perhaps only with some papers, when the print was slipped under the water face up it was immediately covered with a thin white film, but a rub with the finger or a tuft of cotton at once removed it. The time occupied in toning and fixing will naturally depend on the temperature and depth of printing. In our experiments it varied from 20 to 40 minutes, and the tones were generally various shades of purplish brown, with little or no tendency to reach the slaty blue stage. The Reinschild Chemical Company have placed the touring photographer under a debt of gratitude by the introduction of the Tonfix-Paper.

* * *

COOK LENSES.—From the American branch of Taylor, Taylor & Hobson, the makers of the Cook lenses, in the St. James building, Broadway and Twenty-sixth street, New York, comes a quantity of literature well worth the attention of the buyers and users of photographic lenses. "The principles of a lens action," by William Taylor, should be read and studied by every photographer, as it is a *multum in parvo* of just the kind of information that he most needs to know.

Those of our readers resident in New York, or who may visit there

are invited to call at the office and see a specially constructed camera and illuminated test-screen, an arrangement by which the perfection of the art of the optician is beautifully shown. We may add that copies of the interesting booklets are to be got for the asking.

DEVELOPMENT SIMPLIFIED.—The Standard Dry Plate Company, of Lewiston, Maine, sends an interesting booklet by Milton B. Punnett, whose long connection with that plate factory has given him a somewhat unique experience and entitles him to write with authority.

The booklet is in two parts, "Development Simplified," and "Hints and Helps," and both are admirable. We are glad to see that, like ourselves, he has become a convert to Watkins' method of development by factorial time, and gives many reasons why, for both the professional and the amateur, it is better than development by examination. A postal will bring it from the factory, or it may be got from any dealer, and every photographer should read it.

* * *

THE Ideal Enlarging Co., of Marathon, N. Y., sends a folder telling all about what they can do in enlarging from the negatives of professionals or amateurs, and those of our readers who do not care to do that interesting work for themselves cannot do better than send for a copy. Small negatives for enlarging are becoming more and more the order of the day, and while we shall continue to urge our readers to qualify themselves to do their own enlarging, there are many whose circumstances will always make that inconvenient, so that there will be work enough for good enlargers. Not having seen the work of the Ideal Enlarging Co., we cannot say more, but a "trial order" costs little and is better than anything we could say. The folder is to be got for the asking.

* * *

TOM WENWOOD, the First Photographer. By R. B. Litchfield. London. Duckworth & Co. The author of this interesting volume, a son-in-law of

Darwin, and doubly connected with the Wedgwoods, had hoped to see it out last year as a mark of the centenary of the publication of Wedgwood's photographic work, but, like his predecessor and object of his work, ill health sent him abroad, causing delay, and death claimed him in January last, a month before the story so lovingly written, saw the light.

The book, so far as concerns its conception, is not new, as Coleridge and Sir James Macintosh, Tom's contemporaries, at one time undertook to collaborate in an account of the career of one whom they appreciated so highly, but procrastination prevented. And it is perhaps as well, as biography as well as history, like good wine, improves with age.

The sub-title, "The First Photographer," will, by photographers at least, be allowed to be a little too strong, as notwithstanding Miss Meteyard's claims, and oft repeated assertions, he did not, so far as close investigation has gone, get beyond printing on paper or leather coated with solution of silver nitrate, nor did he succeed in fixing the images, the solubility of silver chloride in hyposulphites not having been known till Herschel's announcement in 1839.

It is tolerably certain that nearly fifty years before that, Tom Wedgwood had succeeded in making silver prints, as in 1790 or 1791 Watt wrote: "Dear Sir, I thank you for your instructions as to silver pictures, about which, when at home, I will make some experiments," and shortly thereafter, although the date is uncertain, his paper, read by Davy before the Royal Institution, entitled "An account of a method of copying paintings upon glass, and of making profiles by the agency of light upon nitrate of silver. Invented by T. Wedgwood, Esq. With observations by H. Davy," attracted considerable attention and should, as well as much more concerning his photographic work be read by all who are interested in the early history of the art.

But interesting as that early history is, it forms a comparatively small part of the interest of the book. The delightful intercourse between Tom and his father, his intimate acquaintance with many of the leading men of the time and especially with Coleridge, Wordsworth, Poole, Hazlitt, Leslie, etc., etc., and the many delightful

glimpses of the family life of the Wedgwoods, make it charming reading to all classes of readers.

The style as is easy as the rippling of a brook and makes reading a pleasure altogether aside from the matter, while the ten illustrations, including a fac simile of Tom's handwriting and two portraits of himself give added interest and make it altogether a valuable addition to any library.

* * *

THE PHOTO-MINIATURE, No. 48, deals with Development Printing Papers, telling about them nothing that is really new, but gathering practically all that has been told in scattered notices since their first inception, into one article. The information, so far as it goes, is generally correct, although the statement on page 476 to the effect that Velox prints will be quite freed from hypo by four waters, even although thrice squeegeed between blotters, is open to grave doubt.

We have rarely noticed the illustrations in the little magazine, as they rarely have any connection with the subject in hand, but conscience will not let us ignore them this time. They, especially those facing pages 465 and 476, are simply beyond our comprehension, and for once we rejoice in our ignorance. At the same time, they are well worth the "quarter" charged for the book as showing how far some of our extremists are left to themselves. Those two exposures, for we suppose we must so call them, may be the outcome of the camera and the printing frame, but they are in no sense of the word, as we understand it, photographs.

No. 46, however, should be in the hands of every one who uses developing or gas light papers, as nowhere else can they learn so much about them.

A New Lense, the Homocentric.

The Rochester Optical and Camera Company, recently appointed trade agents for the sale in this country of the well known and universally appreciated lenses made by Ross, Ltd., of London, England, send the following description of the latest advance in the construction of the anastigmat, which, if all that is claimed for it be substan-

tiated, will prove a boon and a blessing to many photographers. To those who aim at only the highest quality of photography one or other of the anastigmat family has become a necessity, and to many of those the getting of one at a moderate price is a desideratum.

We print the description as sent, but hope to have an opportunity of putting the lens to the test of practical work, and having something more to say about it.

Since the discovery of the new Jena Glass enabled the optician to produce lenses where anastigmatism was corrected to a remarkable degree, every energy of the lens maker has been directed toward producing not only the most perfect results, but also toward reducing the cost of production, always very high in anastigmatic lenses.

A great advance in that direction was realized when it became possible to suppress some of the segments which had been thought necessary to the anastigmatic system. If we reflect but a moment that leading anastigmats have been usually formed of two lenses, each composed again of four thin lenses cemented together, it will be seen that a great economy of expensive material and workmanship would be realized could one but reduce the number of the component parts of each lens. Although this was tried, the results were not altogether satisfactory and could hardly compare with those obtained by the best cemented lenses of the older type.

It has been the privilege of Ross, Ltd. (London), to produce a lens simpler in its component parts than any other first class anastigmat heretofore on the market, and yet possessing not only the beautiful qualities which distinguish the latter, but having still new features and qualities of its own. The Homocentric Lenses, just announced, are composed of but four single segments, forming two lenses in all, against the six or eight segments that usually go to form the two lenses of the regular anastigmat. Yet the definition is just as exquisite, as perfect; the crispness rather superior. The corrections for anastigmatism are equal to any and the secondary aberrations, called technically "spherical zones," which must not be taken for anastigmatism and which are present in nearly all modern anastigmats are

here avoided altogether, and so perfectly corrected that the resulting image shows a brilliancy and purity rarely met, if at all, in other lenses. It should be added also that the luminosity of these lenses is somewhat brighter than usual, as there are less reflecting surfaces and layers of glass than in the older cemented lenses.

Another and very important advantage of the Homocentric lies in the low price. Compared with a lens of similar quality and speed of the cemented type, the difference is often striking. This difference in price is not only accountable to the lesser quantity of costly material, and incidentally decreased cost of labor (four segments, instead of eight) that enters into its construction, but also to the fact that it is possible to obtain with uncemented lenses a greater circle of even illumination and definition, consequently subtending a wider angle and a greater covering power, which allows the use of a lens of shorter focus to cover the same size plate.

The depth of focus in the Homocentric is absolutely remarkable, and owing to its admirable correction from every known defect in lenses and which it would take too long to mention here, one is able to focus at full aperture on the object and set afterwards confidently the diaphragm to the stop with which he desires to take the picture, *without refocusing*. In many modern anastigmats this is impossible, and Zeiss in their catalogue specifically give the advice to focus always with the same stop one is intending to use, lest there be a marked loss of definition by stopping down the diaphragm. If it is reflected that in many a dark place like interiors, churches, small alleys, confined situations, the light is so weak that it is well-nigh impossible to focus with a small aperture, it will be readily seen what a boon and a blessing the Homocentric lens will be in these cases, when it is only necessary for the operator to focus comfortably with the largest aperture and reduce the stops afterwards with a certainty that the most perfect definition will be obtained.

Homocentric and all other Ross lenses are sold by all dealers in this country, the Rochester Optical and Camera Company being the trade representative of the manufacturers.

Letters to the Editor.

Replies to "Amateur Electrician."

EDITOR AMERICAN AMATEUR PHOTOGRAPHY:

DEAR SIR:—In your March issue you state, in answer to "Amateur Electrician," that the ruby electric lamp would be useless in a dark room as it transmits too much blue and green light.

I cannot agree with you in this assertion, as I have used a ruby 16-candle power electric lamp as a dark room light for the last five years, and have never found it to fog a plate.

When I first tried it I tested it by exposing a Seed 26x plate for one hour at a distance of three feet from the lamp, one half of the plate being covered with black paper and the other half uncovered. No trace of light action was visible on development.

It is necessary, however, to use a genuine "ruby" glass lamp, as the lamps made of white glass and colored with analine dyes are not safe.

The tip of the lamp, where the glass has lost some of the ruby flashing should also be covered with an opaque paint.

LAWRENCE POLAND.

Not being even an "Amateur Electrician," I may find it difficult to answer his questions in a scientific manner, as the only knowledge I possess of electricity is along the line of electro metallurgy.

However, as Ohm's law is applied to all branches of the science, I will give him the benefit of my deductions. They are only approximately correct, but near enough so that I have never been caught where "Moses was when the light went out."

As for the dry batteries, I am free to admit that they are not the most desirable source of electricity, but in the absence of a more suitable cell they both "could be" and are used, as photo supply catalogues will testify.

By comparing other makes of storage cells I find that from 1-14 to 1-9 amp. hour per square inch of negative plate surface is calculated.

To be on the safe side I have figured 1-16 ampere hour per square inch. In the cells mentioned there is (as was stated) about 100 square inches in both

P. and N., 6-11 of which is negative; 1-11 is therefore about 9 square inches, or a total of 54 square inches.

$1-16 \text{ amp. hour} \div 54 = 54-16 = 3 \text{ } 1-3 \text{ amp. hours; drop the fraction, and 3 ampere hours is safe.}$

But as far as I can see it matters little if cells be of 3, 10 or 50 ampere hours.

To recharge a 4-volt 750 ampere dynamo is used, any continuous current can be used. The lamp is a one-candle power, requires $3\frac{1}{2}$ volts and 18-100 amp. Two cells freshly charged would have 4.2 volts of 0.7 volt more than the lamp is calculated to stand, or an excess of 20 per cent. Hence the necessity of 4 ohms resistance (variable).

Now, then, by Ohm's law we learn

that $C = \frac{E}{R}$. This is modified to include the whole external circuit, and $C = \frac{E}{R + r' + r''}$ is the result, in which

$R + r' + r''$
 $E = 4 \text{ volts } \div$

$R = 19.4 \text{ ohms resist. of lamp.}$

$V' = 4 \text{ ohms variable resist.}$

$V'' = 0.6 \text{ ohms resist. bal. of circuit.}$

24.0 ohms total resistance.

$4 \div 24 \text{ ohms} = .166 \text{ amp. or } .014 \text{ amp. short. Correct this to } .18 \text{ amp. with the "variable resistance."}$

The Cells 3 amp. hour.

The lamp .18 amp. hour required.

Then $3 \div .18 = 16.6$ hours the cells should operate lamp, but these cells are *not* 100 per cent. efficiency, probably not over 75 per cent., so $.166 \times 75 \text{ per cent.} = 12.5$ hours (nearly) would be right.

From the above he can, if he is entitled to the name he has assumed, calculate how many lamps 4 volts and .5 amp. would furnish current for.

I have never operated this lamp for twelve hours at one time, nor have I kept a record, so I do not know if the above is absolutely correct. However, at the end of a seven-hour trial run the voltage had dropped 15-100 volt, leaving 35-100 volt between me and the darkness of which my friend speaks.

The ruby bulb—oh, well, he knows better now.

Yours truly,

F. J. LISCOMB.

Answers to Correspondents.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus, and material for examination, should be sent to Dr. John Nicol, Clifton Springs, N. Y.

R. W. Laubie.—Each grain of gold should tone about a sheet and a half of paper, although it depends to a considerable extent on the depth to which both printing and toning is carried. The sixteen ounces of toning and fixing solution, the formula for which is given on page 54 of our February number, should fix and tone at least fifty 5x7 prints. The bath will keep indefinitely, but should be made at least twenty-four hours before beginning to use it, and it will be all the better if before toning the trimmings of one or two prints be put into it.

Geo. Hastings.—The combined developing and fixing solution, "Boflay," to which you refer, is a proprietary preparation with the composition of which we are not acquainted, although we know that it answers the purpose admirably. T. Thorne Baker, in *Photography*, gives the following as having given good results in his hands, but we have not tried it:

Stock solution, keeping indefinitely.
Sodium hyposulphite 60 grains.
Acetone sulphite 25 grains.
Caustic potass 130 grains.
Water 4 ounces.

Just before use add fifteen grains of edinol, taking care that it is completely dissolved before pouring the solution over the plate.

Without having tried it, we should say that success will depend mainly on suitable exposure, a thing that, if Mr. Baker is correct, can only be ascertained by experience. He says that only "a small fraction" of what would be normal exposure with the ordinary separate solutions is required with this developer, but as to that we have considerable doubts.

There is nothing on which there seems to be such a difference of opinion as to what is sufficient exposure, and nothing for which so many nostrums have been recommended to shorten it. An old professional friend, in the days when canvassers for the sale of secret dodges were commoner than now, on being urged to buy a method by which the exposure might be reduced one-half—it was the pre-

lighting fad, to give the plate a glint of a lighted match just before putting it into the carrier—replied: "That's just the thing I want for the babies, and I'll wait till the next fellow comes round with a method for the elimination of the other half, and so be independent of exposure altogether."

E. L. Bickford.—The print appears to have been toned and fixed in a bath too strong in gold, and to have been left too long in it. The tones or colors possible in the combined bath, as in separate solutions, depend largely on the depth of printing which, in turn, depends on the density of the negative; but in the former, no matter how deep the printing, it is rarely possible to go so far as "black." Fine dark or even purple browns are its ultimate, they are more easily obtained after the bath has been used once or twice. When we want to tone in a freshly prepared bath we first put into it the trimmings of several prints. Toning should not be carried as far as it is desired to be in the finished print as the color becomes darker and richer on drying.

J. L. Allison.—The note on iodine as a reducer on page 561 of our December number could hardly be more definite. To make and keep on hand a concentrated solution of iodine in acetone sulphite, the easiest way will be to take half an ounce of the acetone sulphite solution to be got, we suppose, at any stock house, and add as much iodine, to be got at any drug store, as it will dissolve. To make the reducer, take as much water as will cover the plate, if for general reduction, or, say, half an ounce if for local, and add, drop by drop, sufficient of the iodine solution to make it a lemon or orange color. This will convert the fog or the silver of the image into silver iodide, which will be removed by immersion in hypo. You will see, of course, that the action of the iodine must be carried only far enough to convert the fog, or the proportion of the image that you wish to remove into iodide, as in time the whole would be so converted and on removal from the hypo nothing but gelatine would be left.



No. 1995.

"NATURE IN SNOWY GARB."

H. C. Heidrick.

Clear day, in February, 10 A. M., stop f-16, 2 sec. Seed's Non-Halation Plate.

THE
AMERICAN AMATEUR PHOTOGRAPHER.

VOL. XV.

MAY, 1903.

NO. 5.

ENLARGED NEGATIVES.



"SEA SHORE CHILDREN."

H. B. Lefroy.

NOTWITH-
STANDING
much that has been
said to the contrary,
and the fact that at
many of our exhibi-
tions small prints
have often been pre-
ferred to large ones;
other things being
equal or nearly so, a
large print—12x10 say,
and upward, will al-
ways meet with
greater favor than

small ones; say, 5x7 and downward. Nor need they be "direct;" that is, from large negatives taken directly in the camera at one operation; as enlargements from small negatives—3½x4½, or the more popular 4x5, may, by one or other of the well-known methods, easily be made as good and in some cases better than prints from the original negative itself, as is evident from the fact that at the recent exhibition of the Rochester Camera Club, the prize for the best picture in the exhibition was awarded to an enlargement. According to a well-known art critic, one-half of the exhibits were equal to those at the various salons, not excepting those of New York and Philadelphia.

Time was, and not so long ago either, when as much could not have been said, but we have now more suitable lenses, know better how to

employ them to the best advantage, and the best method is withal so simple that no one who has, say, a 4x5 or 5x7 print worth sending to a competition should ever think of doing so till he has enlarged it at least two diameters.

Nor should there be a doubt as to the best method of enlargement. While it is true that good enlarged prints may be made by an enlarging camera, or even the ordinary lantern, on bromide paper, few would be satisfied with only one print, and each additional one involves going through the whole operation. Then, amateurs are learning that good pictures, especially when of a decorative size, have a price, an additional reason for aiming at a ready means of multiplying them; and the best possible means is by the production of an enlarged negative.

We have in a previous volume treated pretty fully as to the best method of doing that and shall return to it again in the near future, but in the meantime may briefly indicate its nature that those who may be induced to adopt it shall, in the beginning of the season, start fair; begin by making suitable negatives, as on their suitability depends their satisfactory enlargement.

The keynote to the making of negatives for enlargement is correct exposure, and on the over rather than on the under side; an exposure that by straight development will give a negative full of delicate detail and correct gradation, and in which there is nothing but the highest of high lights, if there be such in the subject, that will not transmit some light. In other words, an exposure which will be sufficiently developed before opacity has been reached in any of the lights but the highest of the high. It is well also, unless the lens employed be one of the modern anastigmats, or of a focus considerably longer than usual, to keep the subject, or as much of it as is to be included in the enlargement, well within the limits of the plate, the field of the ordinary lens—the rectilinear, for example, being sufficiently round or saucer-shaped to fall away considerably towards the edges.

From the negative a positive is made by contact printing, preferably on carbon tissue, the tissue made for the purpose, and by single transfer, the exposed tissue being transferred to and developed on a glass plate. This may stagger some who, never having tried carbon printing, have an idea that it is complicated, but one or two experiments will show that it is really simpler than the making of a positive on an ordinary plate while, when each is at its best, that on the carbon tissue is very much the better.

From the positive the negative is made in the copying camera, which may be one of the commercial articles suitable for either enlargement or reduction, or where practically one size of positive is to be enlarged to



San Francisco Salon.

"A BRACE OF MALLARD."

C. Geo. Bull, M. D.

one size of negative, the photographer may make one for himself or get one made at a cost of three or four dollars. Enlarging to 10x12 is common and a good size, but, for the sake of economy we prefer 9x11, getting four prints out of an 18x22 sheet of paper, and either makes a print that can be shown with satisfaction and for which the amateur who likes to turn his work to account can get a satisfactory price.

The negative may be made on an ordinary plate, the slower variety, such as Carbutt's "B", in preference, or on some of the varieties of bromide paper, such as the negative Rotograph. The latter we have used with satisfaction, as it prints rapidly enough without oiling or other translucent making operation, and may be printed from either side.

Readers possessing back volumes will find, in a series of articles on the making of large negatives, full instructions for the construction of a suitable enlarging camera, but as many have joined our ranks since they were written, we shall either reprint them or write something equally helpful in our next.

In the meantime we strongly urge those of our readers who want a new sensation in their photography to resolve on the adoption of this system of enlargement. The pleasure of handling a well-made 9x11 negative and the possibilities incident to printing from it will be a revelation to them, so that they will ever after look back on the making of small prints as simply playing at photography.



San Francisco Salon,

"MARSHLAND,"

C. Geo. Bull, M. D.

SPECIAL SUBJECT SERIES.—V.

Improving the Negative.

BY DR. JOHN NICOL.



"STREET VENDORS." Edw. Heim.
In the Tenement House District, New York.

THE April article of this series was devoted to what may be called the technical perfection of the negative; the bringing it up to its best for the production of what is implied by "the usual thing," a print as nearly as possible in true values or color luminosities, and as correct as possible in

the degrees of the light and dark gradation in the subject.

But while the more perfect the technique of the negative, the better is it adapted for the recording of facts; technique is only second to what is generally understood by art in pictorial photography. Some indeed go so far as to belittle technique as something beneath their attention, and refer to pictures that gain acceptance in salons and are awarded other high honors the negatives of which would be discarded as failures by even a tyro amongst straight photographers. But it is with technique amongst photographers as with the canons of art amongst painters. Good work has been done by both where both have been neglected, but I say without hesitation, and as the result of much careful study, that the *good* without attention to the technique would have been much better had it been observed; and that the pictorial photographer who ignores it heavily handicaps himself.

But nature is not always nor indeed often artistic, and consequently the "record of fact," however perfect, is rarely in the true sense of the word, pictorial, although he who knows what he wants and how to get it may do much on such a negative to make it so.

As in the case of intensification or reduction, it is well, before beginning operations, to make a print from the negative both for study and as

a guide; for study through which to learn the necessities and possibilities, and as a guide throughout the various operations.

It may be that for certain purposes nothing more is necessary than to get rid of the too obtrusive sharpness, that which during photography's earlier days was esteemed its greatest beauty; and for that nothing is better than to print with a sheet of transparent celluloid of suitable thickness between the paper and the negative; the great advantage of that method being that, while it answers the purpose, it leaves the negative ready to produce such sharp definition when it is desired.

Local treatment, however, is far more frequently required, and that may be done in several ways. One of the simplest, when but little is necessary, and especially when one has acquired the ability to do it well, is with lead on the film side; and there are indeed few negatives that cannot be improved by its means. Well-pointed pencils of various degrees of hardness may be employed, and by various styles of "touch," each especially suited to a particular phase of retouching. Large shadows are easily lighted up by a kind of cross-hatching; lights intensified by thin lines, and smaller darks given any desired tone by stippling. To do this conveniently some kind of retouching desk is advisable, but he is a poor photographer who cannot devise and construct that for himself. And the improvement that can thus be made will surprise those who have never tried it, as will the ease with which it can be accomplished after a few trials.

An equally simple, and, where large spaces are to be dealt with, better method is to cover the back of the negative with translucent paper, and work on it with both pencil and stump. For this purpose tissue paper is sometimes used, but it is both fragile and blotchy, or irregular in texture, and so vastly inferior to what is known as *papier mineral*, to be found in most stock houses. This is tough, even in texture, fairly translucent, and takes the lead readily. A piece about half an inch longer and broader than the negative should be slightly moistened—damped just enough for expansion, and a line about a quarter of an inch gummed or pasted all round. The negative is laid on this, face up, and the gummed edges turned over and rubbed down on the face. The paper should be cut so as to cover not more than the rabbit, and when dry will be as tight as a drum.

A negative so covered will, of course, take longer to print, but the pictorial photographer does not generally make dozens of prints, so that half an hour more or less is to him of little consequence; and the facility that it gives for work and the improvement that can be made is well worth both time and trouble; while the softening that printing



"A FOREST PATH."

Geo. E. Fitch.

through the glass gives to the hand work makes less care necessary than when done on the film.

It goes without saying that the better the artist the better will the work be, but even the tyro at the first attempt will be surprised at the improvement he can make. Here the sharp-pointed pencil may be applied with greater freedom; larger surfaces may be lightened with the stump or washes of color, or lowered in tone by giving greater translucency, by a touch of oil; while, by a combination of the oiled rag and lead-charged stump, gradation and even a suggestion of clouds may be given to an all too even sky. In short, the possibilities of the *papier mineral* covered back are almost unlimited, and he who has once tried it will rarely finish a negative without it.

There is still another, and at the present time very useful method by which a certain class of negatives may be made almost automatically to improve themselves. The craze for rapidity is such that large numbers of the negatives of to-day can only give prints of the "soot and white-wash" order; negatives on which the exposure has been insufficient to impress in any degree the darks or shadows of the subjects and in which, by over development, the lights have been built up till they are all equally high.

While such negatives can never be made to give really good prints they may be vastly improved by what I have called the automatic method. This consists in making from the negative a very faint positive, binding it and the negative together like a lantern slide, and printing through the combination. The negative is placed in the printing frame in the ordinary way, and on it an ordinary plate, the slower the better, and a brief exposure made, preferably by artificial light, as in that way it is easier to hit just the right exposure.

I have spoken of this second plate as "a faint positive," but it will be understood that it is not in reality such, as the exposure should only be sufficient to give, on development, something that will be a substitute for the missing shadow detail, and will vary with each negative. Of course, at first the necessary exposure can only be found by trial and error, but after a little practice it will be easy to hit both it and the suitable development every time.

I know that there are many who condemn all this kind of working on the negative by the, to their mind, opprobrious title, "Faking," and insist on everything being done by what they call straight photography. So long as they stick to their belief and try to reach their ideal by "straight" means, all honor to them. Straight photography can be made to do much; but, after all, in pictorial work the end and not the



San Francisco Salon.

By C. T. Wernwag

"REMBRANDT STUDY."

means is the object in view; and so long as the faking does not give itself away it is as legitimate as any of the purely photographic operations. When we are delighted with any great painting we do not ask what of it is due to the brush, the palette-knife, or the rag. or as the late president of the Royal Scottish Academy was wont to call it, the "dishclout," and why should the picture maker by photography not be equally free?

But when all that can be done on the negative has been done there is still room for something more while in the printing frame, as shall be shown in my next.



Cleveland Salon.

Geo F. Kuntz, Akron, O.



No. 1593.

"BACHELOR'S REVERIE."

Rev. S. S. Conger.

PECULIARITIES OF A MODERN ANASTIGMAT.

WE have often said that although the lens is the most important tool that the photographer employs, it is the one that, in general at least, he knows least about; and although we have again and again done our best to give him a rudimentary knowledge of photographic optics his deficiency is still great enough to induce us to return to the subject.

Until the introduction of what is known as the Jena glass, less than twenty years ago, the best that the optician could do for the photographer was found in the better qualities of what may be called the rectilinear type of lenses, excellent indeed with the material at their command, but with several serious faults that then they hardly ever expected to overcome. These are mainly curvature of image or roundness of field; astigmatism, and spherical aberration or an inability to bring each point of light from the object to an accurate point in the image.

Curvature, or roundness of field, arises from the fact that the more oblique the rays from the object fall on the lens the sooner they come to a focus as they approach the "focal plane," the position of the plate; so that the image is dished, and to secure sharpness all over the plate instead of flat should be saucer-shaped. Astigmatism affects the oblique rays in a different way, and is easily recognized by the fact that in attempting to focus a series of vertical and horizontal lines, the astragals of a window for example, both cannot be brought into focus together:

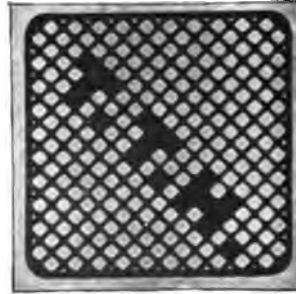
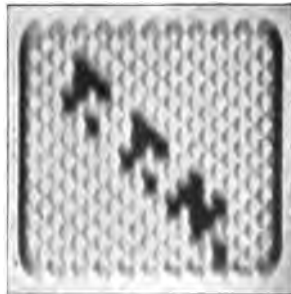
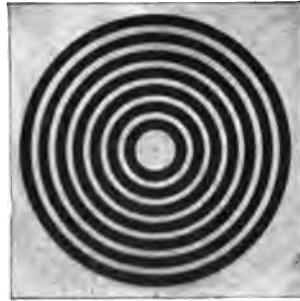
when the verticals are in the horizontals, are out, and *vice versa*. Each of those faults in even the best of the older or ordinary lenses is sufficient to seriously mar the technique of a photograph in which something like equal definition all over is desired, and in combination the evil is vastly greater.

Nor is that all. Spherical aberration, more or less present in the older lenses, still further degrades the image by producing imperfect sphericity of the light wave, so that instead of its falling on the plate as a perfect point it takes more the form of a shaded spot, resulting in lack of brilliance in the image.

The results of those faults and of their absence are shown below.

THE OLD.

THE NEW.



ANGLE OF OBLIQUITY 22.5 DEGREES.

Half-tone enlargements by the Swan Engraving Company, certified by Mr. Cameron Swan.

The squares and circles are magnified from similar portions of the margins of negatives taken under similar conditions; the left-hand pair by a rectilinear of a leading maker, the right hand by the Cooke, one of the modern anastigmats.

So long as the optician was confined to practically two kinds of glass, flint and crown, the correction of the various aberrations was a matter of compromise, some of the least harmful being left that the more injurious might be eliminated; but, thanks to the Jena experimenters and the government that aided them, when glasses of varying degrees of dispersion and refraction became available, they soon reached something very near to perfection.

The four lenses—two cemented pairs of the older forms became six, eight, and in some cases ten, the result, as in the plastigmat of which we have often written, and which we have employed during the past year, being such that it is hardly possible, hardly even desirable, to go beyond.

But while other opticians were, by the multiplication of glasses, profound mathematical calculation, and the highest possible class of workmanship, doing such splendid work, Taylor—Taylor and Hobson, of Leicester, England—struck out in a new or different line, and in the "Cooke" produced a remarkable lens, with three simple glasses and two air spaces for which qualities are claimed and, judging from its popularity in the land of its origin, very largely admitted, equal to the best of the anastigmats.

Some five or six years ago, on the occasion of the visit of one of the brothers Taylor to this country, one of the Cooke lenses was sent to us for examination and report, and although we are too far from home to refer to it, we know that the report was, in respect to every quality that a good lens should possess, eminently favorable; and that at its aperture F-6.5 in covering power, marginal definition, flatness of field and freedom from astigmatism, trod close on the heels of a fine Zeiss at F-7.7 then in our possession.

The one drawback to the anastigmat type of lenses being their high price, rendered necessary by the greater number of surfaces to grind and greater accuracy in their adjustment, it might have been expected that a cheaper because simpler lens doing in every respect the same work would soon have become popular. But even a good thing requires some pushing, and the Cooke lens was not pushed, there being here no branch of the firm by which it is made and hardly even an agency on this side.

But this is altered now, as will be seen from our advertising pages, by the establishment of a branch in the St. James Building, Broadway and 26th St., New York, in charge of one of the brothers Taylor, and it is likely to be wrought for all that it is worth. With that end in view they have sent for our examination one of the most recently introduced series III, the "focusing lens," working at F-6.5, mounted in a Bausch & Lomb's volute shutter; and it is a thing of beauty, and to those who have pleasure in the highest of high-class workmanship, will indeed be a joy forever.

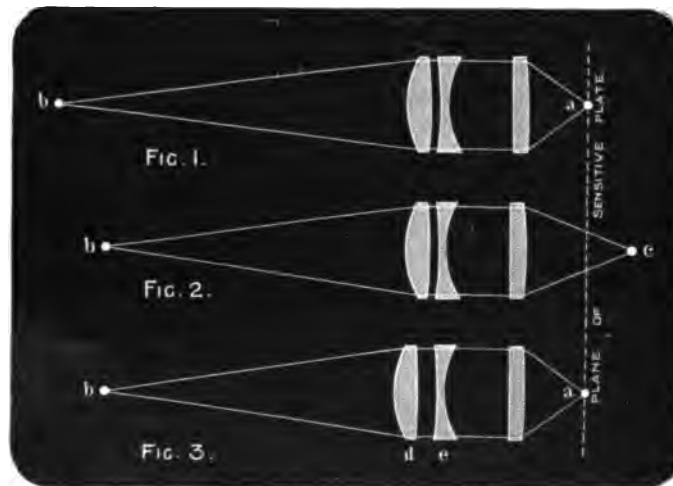
Of the volute we have already said more than once that it left absolutely nothing to be desired, except the substitution of the self-evident "focal fraction" system of marking the various apertures for the, except to the knowing ones, meaningless and, by the authority that devised them, abrogated U. S. numbers, and we are glad to say that in this shutter the substitution has been made, the marking being from F-6.5 to F-45.

The cut shows the focusing lens without the shutter, but with iris diaphragms marked in the same way. The one in question has an equivalent focus of 6.2 inches and is intended for 4x5, although, stopped down to F-16 or F-22, it becomes a perfect wide angle lens, covering perfectly $8\frac{1}{2} \times 6\frac{1}{2}$, or not far short of 75° ; and is an ideal lens for an "ever-ready" hand camera.



The construction of the Cooke makes possible the focusing of objects from 100 feet, or infinite distance, to nine feet with a simple rigid camera and without supplementary lenses or bellows, as will be easily understood by the diagram.

Fig. 1 represents in section the three simple glasses of a Cooke lens which form at the point *a* an image of the distant object *b*. In Fig. 2 the object *b* is shown nearer to the lens, so that with any ordinary lens the image would fall at *c*, and would be out of focus on the sensitive plate. In Fig. 3, however, it is shown that by increasing the separation of the glasses *d* and *e* of the Cooke lens, the focus of the entire lens is altered sufficiently to bring the image of the near object *b* to focus at *a* upon the sensitive plate.



We are too far from home to submit the lens to other than tests in the camera, but so far as they go they show the lens to be, for all kinds of work for which it can be required, a faultless member of the anastigmat type. Within a circle of five inches, which is more than it is intended to cover, agate type reduced to one-fourth was found, when examined by the magnifying glass, to be as perfectly defined at the edges as in any other part of the disc, and the image had the delightful brilliance on the focusing screen, and especially the aerial image, that can be felt better than described and that can be found only in the absence of spherical aberration.

The sum of the matter, then, is that he who possesses a Cooke lens, no matter what the work or what the faults that can be found with it, may be perfectly satisfied that they cannot be laid on the lens.

WORDS FROM THE WATCH-TOWER.

BY WATCHMAN.

In a recent batch of "words" I told of great complaints being made in Germany against department stores and such like commercial establishments for the injury they were doing to professional photography; their low prices putting to the wall not only the weaker, but sending into bankruptcy many of the older and best established firms and now it looks as if it were not impossible for something of the same kind to happen here.

During my wanderings in New York a few days ago I ventured into the well-equipped photographic department or studio of one of the largest department stores in the city and saw every appearance of a large, very large trade being done at such prices as no one who had not some other string to his bow could honestly expect to pay his way and keep the wolf from the door, far less lay aside something for the rainy day. The price list offered cabinets at \$1.75 per dozen, Imperials in platinum at \$3, and for an additional 50 cents in either case a 16x20 enlargement in black and white. And the worst of it is, the work was really good; quite equal to if not better than much that is being sent out at very much larger prices.

* * *

It is often said that the days of fortune making by photography are past, but from information that crops up occasionally it is evident that there are still some fat pickings. One of those showings appear in a recent exchange which tells of the purchase of a business for five thousand dollars by two photographers who soon found that they did not get on well together, and one of whom raised an action for separation. The result was an appointment of a receiver *pro tem*, and a public examination, from which I learn that the drawing of each from the business during 1902 was over five thousand dollars, and that the defendant to the suit was employed by the receiver to carry on the business at a salary of eighty dollars per week.

* * *

When are our caterers going to cater for us as our friends across the water are catered for? The following paragraph from one of the British journals makes a favorable answer to the question desirable.

Aniline Colors for Photography.—Messrs. Mawson & Swan, of Mosley Street, Newcastle-on-Tyne, draw our attention to a list of aniline colors used in photography. These are put up in small quantities in corked phials, and the list includes no less than fifty-eight separate dyes. Those interested should send to Messrs. Mawson & Swan for a copy.

* * *

Here is another little thing that, with a parcels post and the abolition of the custom-house bother, most of us should be sending for:

"The 'Bosco' Gas Lighter throws 'a new light on an old problem,' say its makers. It is a little metal tube (small enough to lie snugly in

the waistcoat pocket), and when held in a stream of coal gas promptly incandesces and ignites the gas. It is sold at 1s. 3d. by Mr. R. C. Murray, of 8 Garrick Street, W. C., and will prove a boon in dark rooms where the match box is found sailing in the hypo bath."

* * *

Professional friends please read carefully the following, which I extract from *The British Journal of Photography*, and if there are any of you whom the cap fits, *verbum sat sapienti*.

"Photographic studios as a rule are by no means patterns of cleanliness and general tidiness. Some few of the higher class ones are, it is true, but in the majority of cases the middle and lower classes are just the reverse. The apparatus is often lacking in polish, the furniture more or less dingy, and the compo accessories, where they are used, chipped, and too frequently dusty, while the blinds and curtains are dirty and stained. This state of things usually comes about so slowly, and the owner has become so familiar with them, that he fails to realize the real state of affairs. Not so with strangers, however, who see the place for the first time. They are at once impressed with them, and not always favorably. It is true this makes no difference in the quality of the work turned out, but too frequently the sitter may have misgivings on the point, and that may influence the expression during the exposure."

* * *

Photography is looking up, and will hardly, in the future, be looked at askance in the law courts. His Majesty's judges in Scotland have been photographed, and a portable studio has been erected in the Judges' Quadrangle of the Royal Courts of Justice in London that the English Judges may follow their example; the object being to afford material for a great painting for public exhibition. Let us hope that the picture will be photogravured that we on this side may learn something of the effect produced by the horse-hair wigs and ermine trimmed gowns. *The Photographic News*, from which I get this information, says the idea was suggested by the Scottish "Paper Lords," one at least of whom I know to be no mean hand with the camera.

NOTES.

A Misprint.—Our attention has been called to a misprint in the last line of page 10 of our January number, where, in speaking of the development of over-exposures a solution weak in *reducer* is indicated. The author meant to say weak in *accelerator*, or alkali; as if a change is to be made in the proportion of the reducer it should be an increase rather than a reduction, as is shown in the last paragraph on page 58 of the February number.

Stereoscopic Projection.—Theodore Brown, a well-known contributor to the British magazines, claims to have discovered a method by which stereoscopic effect on the screen without the use of anything by the observer, or any of the drawbacks incident to all previous methods. We shall look out for development and keep our readers advised.

Injurious Awards.—The following, clipped from a leader in *Photography*, strengthens our contention against awards at minor competitions:

"The lavish bestowal of recognition upon photographic rubbish is a blight from which only a comparatively small number of societies are free, and if only those who arrange exhibitions would keep clearly before them the fact that it is better to attract to them the best work they can get than send inferior workers away staggering under a load of medals, there would be considerable improvement in the value of many of our minor exhibitions."

Professor Piazzì Smyth's Teneriffe.—It may be of interest to know that the stereoscopic illustrations in the book on Teneriffe mentioned in a recent number of *The Amateur Photographer* were printed from negatives made from weak, some of them *very* weak positives. The positives were by wet collodion, and backed up in the ordinary way, and the idea of getting prints from them was an after-thought. In some cases the negatives were made from the positives by copying in the camera and in others the positive image was converted into silver iodide and redeveloped, and in the ultimate result it was difficult to say which was which. Professor Smyth was the most patient and particular photographer we ever had anything to do with, and nothing short of as near to perfection as possible was allowed to leave his hands.

The Chronophone.—The long-talked of combination of the kinematograph and the phonograph is, according to *Photography*, likely soon to be placed on exhibition. *Photography* says:

"The Chronophone, in which the phonograph and kinematograph are combined, is announced as likely to appear very shortly by Messrs. L. Gaumont & Co., of 22 and 25 Cecil Court, Charing Cross Road, London, W. C. With this it is claimed that it is possible to see and hear the words issuing from the lips of speaker or singer on the screen. Moreover, the operator will have the synchronism of the two instruments under his control—to adjust at will and to re-establish it while the mechanism is working if any unforeseen circumstance should cause it to be lost. The phonograph being the more delicate of the two mechanisms, it is that which controls the other. It is done electrically. We hope to have an opportunity before long of seeing the apparatus at work, when we shall be able to report further upon it."

It is easy to believe that something of this kind may be managed in a small way, say, in "the penny in the slot" style, with the voice and the picture close together, but altogether a different matter when it comes to projection with a considerable distance between the figure and the phone. But we shall see, and in the meantime all credit to those who are making the attempt.

Chinaldinethylcyanineiodide is merely the chemist's name for a new ethyl red, made by Meister, Lucius & Gruning, and, according to Drs. Miethe and Eder, the best sensitizer for a panchromatic plate. Ordinary plates may be made panchromatic by being bathed in a solution of a strength of 1-50,000, or the dye may be added to the emulsion, 0.016 gramme to the litre. Our plate makers should look into this, as the

day is not distant when only plates that are more or less orthochromatic will be employed.

Additional Confirmation of the evils of minor competitions will be found in the following paragraph from a communication by R. Melville to the *Photographic News*. He says: "I recently judged some hundreds of prints sent in for a magazine competition, and I was surprised at the great number of would-be prize-winners who seemed without the slightest conception of what constitutes good work. A man may be forgiven if he cannot immediately grasp the niceties of composition or of tone. But so many seem to stumble over much simpler matters. In fully three-fourths of the pictures with foregrounds there was evidence of under-exposure; and an equal proportion of the prints were trimmed as little as possible. Indeed, the defects of trimming, mounting, and exposure were very, very palpable." Surely nothing more need be said than that at all such exhibitions prizes are awarded to the least objectionable of such photographs.

Mr. J. Gaedicke, in the *Photographische Wochenblatte*, of recent date, has made an interesting comparative test of developers. Each new developer has its champion, and it is rather hard sometimes to get down to the real facts. In testing developers, it should be remembered that the plate which records the impression must be harmonious, that is, capable of giving a good tone value to the high lights, shadows and intermediate tones, and not too contrasty or too flat, as the case may be. A series of developers was made up and plates developed in them which had been exposed under a sensitometer of 16 steps or layers of onion-skin paper. The records were as follows:

THE PICTURE APPEARED IN	LENGTH OF DEVELOPMENT,	LAST NUMBER VISIBLE,	INTENSITY,
Rodinal 25 sec.	3 min.	13.	Moderate.
Edinol..... 22 "	3 "	13.	Moderate, very clear.
Pinakol..... 15 "	2 "	13.	Moderate.
Adurol 20 "	3 "	13.	Strong.
Amidol 13 "	2 "	13-14.	Pretty strong.
Ortol 21 "	2 "	13.	Little less strong.
Glycin..... 37 "	4 "	13.	Very strong, very clear.
Metol 5 "	1 "	13.	Moderate.
Hydroquinone... 80 "	5 "	13-14.	Strong.
Pyrocatechin... 165 "	11 "	13-14.	Very strong, very clear.

The most rapid developer is Metol, the slowest Glycin, Hydroquinone, Pyrocatechin; the most intense negatives were produced by Glycin, Hydroquinone, Adurol and Pyrocatechin, the clearest by Pyrocatechin, Glycin and Edinol.

The keeping qualities of the solutions which are ready for use are excellent in the case of Rodinal, but remarkable in the case of Adurol.

Amidol and Ortol also keep well, Edinol and Pinakol will keep least of all.

From the above experiments it appears that Adurol and Glycin do not receive really as much consideration as they deserve, which is possibly due to the fact that the public is not sufficiently familiar with them.

Adurol possesses the following advantages:

1st. A solution of Adurol ready for use and in the proper strength will

keep perfectly white for a very long time even when the bottles are only partially filled, and in this respect it is superior to the other developers, especially to Edinol and Pinakol and Pyrocatechin.

2d. Adurol is the quickest working developer of those four developers which yield the best intensity, and it combines in the highest degree speed and intensity.

3d. From the experiments it has been shown that Adurol produces negatives which render more nearly correct light values than any of the other rapid developers.

4th. It is superior to Hydroquinone for the reason that it is not affected by the temperature.

THE PHOTO SECESSION.

ALTHOUGH we do not hear much of the "Photo-Secession" we have ample evidence of its progression and missionary effort; and that it is already in the enjoyment of a local habitation, a name, and a journal. We do not refer to its own particular organ, *Camera Work*, which is quite a different thing; but to "*The Photo-Secession No. 2*" for April, which lies before us, and from which we get much gratifying information.

From it we learn that one of the chief methods of its missionary effort is the collecting of the best work of its members for exhibition in all parts of the world, and that at the date of the circular it had received, within the past few weeks, urgent invitations to send Loan Collections of prints to the following exhibitions: Wiesbaden, Germany; International Pictorial Photographic Portrait Exhibition; St. Petersburg (Russia) International Photographic Exhibition; Denver (Colorado) Salon; Minneapolis (Minnesota) Salon; Cleveland (Ohio) Camera Club Salon; Rochester (New York) Camera Club Exhibition; Toronto (Canada) Camera Club Exhibition, and the Paris (France) Salon; and that to these have been sent collections varying in size from fourteen frames to fifty-eight, the largest going to St. Petersburg.

The Photo-Secession already includes 17 Fellows and twenty-eight Associates—literally extending from Maine to Oregon—three of the former and eight of the latter being women; and the best advice we can give to our readers is that they should do their best to become fit for admission into the charmed circle.

Not that we admire all the work of all the Secessionists,—far from it, but that is probably our fault rather than the fault of the work. It has been often said that we see in pictures only what we bring to them, and in that work there is variety enough to suit all tastes and all degrees of culture.

The members of the Photo-Secession, or many of them, have, individually, exercised considerable influence on pictorial photography, and evidently their influence will be yet still greater and therefore we heartily wish them Godspeed.

A MODIFIED GUM-BICHROMATE METHOD.

BY E. W. FOXLEE.

The author's long connection with the Autotype Company and his thorough acquaintance with the pigmented gelatine gives great value to anything he writes on the subject. We have therefore much pleasure in extracting the following from *The Amateur Photographer*, the more especially as from the few experiments we have been able to make we are satisfied that the method is capable of yielding the highest class of pictorial work.

Although I am not a worker of the gum-bichromate process myself, I could see that this method of working might prove useful to those who are, and for the following reasons: There is a visible image, as some guide to exposure; the proportion of pigment to gum need not be so nicely adjusted, or so neatly applied, as when the film has to be printed through. Also, one may be more independent as to the character of the negative than in the ordinary gum process. It is quite feasible that as the image can be seen, more or less, pigment may be applied locally, and, possibly, of different tints. The first method I worked out is as follows: A hard sized paper, of the surface preferred, is coated with a solution of gelatine, such as Dröscher's or Heinrich's. The proportions I found answer well were—gelatine, half an ounce; water, forty-five ounces. The gelatine should be soaked in cold water for an hour or so, and then dissolved by heat. The paper may be coated by floating it on the solution while it is kept warm in a dish, or two sheets, placed back to back, may be drawn through it and then suspended to dry. When dry, the sheets may be separated by cutting round the edges. The latter is the quicker way of working. Either method, however, requires a little "knack", to avoid inequalities in the coating; therefore, the novice is advised to apply the gelatine with a brush. Indeed, with rough papers the brush is imperative. The gelatine is best applied in the following way: Allow the solution to stand all night, and in the morning it will be in a jellied condition. The jelly is then well broken up with a fork, or, better still, forced through rather fine muslin. It is then applied to the paper with a tolerably stiff flat hog-hair varnish brush, working it well into the paper, first in one direction, and then in the other, so as to obtain an even coating. This is necessary, otherwise the finished print will show any streaks that may be left. One coating will be sufficient with some papers, but soft sized or porous ones may require two, or even three, coatings. When the paper is dry it is ready for sensitizing.

SENSITIZING SOLUTION.

Bichromate of potash	1 oz. or 25 gm.
Water	40 oz. or 1 litre.

On this solution the paper is floated for two minutes and then hung up to dry, of course in the dark. When dry it is ready for printing. The

printing should not be too deep, only just sufficient to show slight detail in the lights. After exposure the print is washed until the free bichromate is removed, and then allowed to dry spontaneously. In this state it may be kept for weeks, or may be pigmented at once. Here is the formula for the pigmenting:—

STOCK SOLUTION OF GUM.

Turkey gum	4 oz. or 100 gm.
Cold water	8 oz. or 200 c. c.
Carbolic Acid	6 drops

When the gum is dissolved it should be allowed to filter through fine muslin. It should not be forced through, as portions of some samples of gum are not completely soluble, and they would pass through if pressure were used, and it is not desirable to have them. This solution will keep well.

PIGMENTING SOLUTION.

Stock solution of gum	4 dr. or 16 c. c.
Water	3 dr. or 12 c. c.
Glycerine	2 dr. or 8 c. c.
Acetic acid (glacial)	3 dr. or 12 c. c.

It is best to mix the water, glycerine, and acid together first, and then add them to the gum. The pigmenting is done in the usual way. A little of the color, dry or moist tube color of the desired tint, is put on a glass plate, and intimately mixed with some of the pigmenting solution, using a palette knife for the purpose. No definite quantity of the pigment can be given, as that must depend upon its coloring power; very little, however, is required. Gum workers will know the right proportion to use. The color is applied with a soft hog-hair varnish brush in the ordinary manner, and if a tolerably even coating is not obtained, the surface may afterwards be stippled over with a badger brush. But, as already said, an absolutely even coating is not so imperative as if it had to be printed through. The prints are then hung up to dry, and the next day they may be developed. Development is conducted in precisely the same way as in the usual method of working the gum bichromate process.

In place of gelatine, other substances may be employed for the initial print, such as the starches, tragacanth, and flour paste. Some of these yield, to my idea, better results than gelatine, as they give a surface free from gloss. They will be dealt with further on.

It may, perhaps, be as well to here point out to those who may not have considered the subject that the conditions of the formation of the pigment image, in this modified method, are just the reverse of those obtaining when the gum-bichromate process is worked in the ordinary way. In the carbon process, it may be explained, the insoluble-izing action of light on the tissue proceeds from the surface downward, and there is always a soluble layer of gelatine next the paper. It is for this reason that the tissue has to be mounted on another support for its development. In the gum-bichromate process the same conditions obtain, but in a lesser degree, owing to the thinness of the layer of pigmented gum. Still, that portion which is next the paper is in a more delicate and tender condition than the outer surface. In this modified method of working the insoluble-izing action proceeds from the paper upward; that portion which is next it is the hardest, while the outer is the softest; and, as a

consequence the picture will bear a considerable amount of rough treatment in its development, or after-treatment. It also gives us the power of obtaining great vigor. In fact, the vigor is in proportion to the quantity of pigment added to the gum solution. In this way we have the means of obtaining very vigorous results, or soft and delicate ones, from one and the same negative.

As already said, colloids other than gelatine can be employed for the initial print—such as starch or flour, also tragacanth, for example. These to my mind, the two former especially, yield better and more pleasing results than does gelatine, and they seem more easy to work. The principle involved is, of course, the same with all, though some little modification in the treatment of the papers prepared with them is required. Here are formulæ for the three named that have worked well in my hands. We will take the starch first, which is as under:—

Bermuda arrowroot	$\frac{1}{2}$ oz.	16 gm.
Water	16 "	500 c. c.

The arrowroot should be intimately mixed with, say, six ounces of the water in a basin, the remainder of it being put into a small saucepan and brought nearly to the boil and then added to the arrowroot. The whole is then mixed and put into the saucepan and boiled for four minutes, with continual stirring. It is poured back into the basin, and allowed to cool. This had best be prepared over-night and it will be ready for use in the morning. Flour paste—

Good wheaten flour rich in gluten	2 oz.	50 gm.
Water	20 "	500 c. c.

This is prepared in the same way as the arrowroot (starch) paste, except that it is boiled for rather less time—three instead of four minutes. I may say that I prefer good household flour to what is sold as "pastry whites," as what I have tried of the latter does not seem so rich in gluten as the former, although it was higher in price.

The formula for the tragacanth mucilage stands thus:

Tragacanth	$\frac{1}{2}$ oz.	16 gm.
Water	30 "	900 c. c.

The tragacanth should be the best white, as sold at the chemist's, and not the "gum dragon" of the oil-shops. This is how it is prepared: the gum is put into a beaker with the water, and allowed to soak for a couple of days, with an occasional stir up. At the end of that time it will have become a thick mucilage or "stodge." The beaker is next put into a saucepan of water, boiled for ten minutes or so, and allowed to get cold. It is then forced through fine muslin, when an even mucilage will be obtained. It is then ready for use. The formula for the tragacanth mucilage is given because with it I have obtained some good results. But it is more troublesome to prepare than either the starch or flour pastes, while, so far as I can see, it offers no advantage over them—rather the reverse, for I have at times found it inclined to "play tricks," for which I am with my present knowledge unable to account. Therefore, on the whole, I recommend either the flour or starch in preference to the tragacanth or the gelatine. With regard to those two there seems to be no practical difference between them in their working; one appears to be just as good as the other, so that it becomes quite a matter of

fancy which is employed. They are applied to the paper in the same way whichever is used. The arrow-root or flour paste having been made over-night as directed, will be found covered with a rather hard layer on the surface the next day. This should be removed with a spoon, and the paste well broken up to render it easy of application. The best and quickest way of doing this is to squeeze it with some force through rather fine muslin.

With regard to the paper to be employed for the work. It must be a hard-sized one, so that the picture is kept entirely on the surface, for if it sinks into the body of the paper there will be a difficulty in the development of getting the lights clear. If the paper be of a more or less porous character it will be necessary to apply two or even three coats of the paste, or to give it a preliminary coating of gelatine. The papers I have used have been the Rives photographic paper, as made for albumenizing; hard-sized cartridge, as sold by the artists' colormen; Whatman's water color and similar papers. With any of these a single coating suffices. Two methods may be employed in coating the paper. One is with a flat hog-hair varnish brush, and the other with a piece of soft sponge. The paper being secured at the corners by drawing pins on a flat board or table, the paste is applied freely, and well worked into the paper. If the brush be employed it should be used lengthwise and crosswise alternately, finishing off lightly so that no streaks are left, as they might, if left, show in the finished picture. If the sponge be employed I find it best to begin with a circular motion and finish off lengthwise and crosswise. Should any lines then remain they may be removed by lightly stippling over the surface with a piece of soft muslin or an old cambric handkerchief. The paper is then suspended to dry. A quantity of it may be prepared at a time, as it will keep indefinitely if kept dry.

The sensitizing bath for these papers should be weaker than for those prepared with gelatine. This is a good strength to employ:

Bichromate of potash	$\frac{1}{2}$ oz.	10 gm.
Water	50 "	1 litre.

The paper is sensitized by floating it face downwards on the solution and then allowing it to dry, in the dark, of course. As the starch, flour, and tragacanth have different absorptive properties, the time of floating should differ. With the starch a couple of minutes will be about right, with the flour one and a half minutes will suffice, and with the tragacanth one minute or less will be ample. When sensitized, the papers will vary in color. The last named will be the deepest, and the starch the lightest, while the flour will be intermediate between the two. The sensitiveness will also vary with the color—the tragacanth being the darkest, prints the quickest, while the starch, the palest, is the slowest. The printing should not be carried deeper than to just show the faint detail in the lights, and this will take, with what may be termed a medium negative, in a good diffused light at this time of year, from five to ten minutes. Much over-printing should be avoided, as it seems to have a tendency to a reversed action of light. After exposure the print is washed in several changes of water, until all the free bichromate is removed, and the high lights appear white, or nearly so, when the paper is looked through. It

is then hung up to dry, when it is ready for pigmentation, or it may be kept for some days before that is done. The pigmentation solution I have found best for these papers stands thus:

Stock solution of gum (as before)	4 drams	16 gm.
Water	10 "	40 "
Glycerine	2 "	8 "
Sulphuric acid (1-10)	1 "	4 "

The water, glycerine, and acid should be first mixed together and then added to the gum and well shaken. I am inclined to think that this solution answers best when freshly mixed or within a few days after mixing. It will be noticed that this mixture is very similar to that already given for gelatined paper, except that it contains a larger proportion of water and also that sulphuric acid takes the place of the acetic, as I have found that to work more satisfactorily with the starch and flour papers than the acetic.

A little pigment, dry or moist tube color, is put on a glass slab, and some of the acidified gum solution added and intimately mixed with a palette knife. The proportion of pigment should be much greater than is permissible in working the ordinary gum-bichromate process, and it should be apportioned according to the effect desired. If vigorous pictures are required, more pigment should be used than when soft and delicate ones are the object. The most suitable way I have found of applying the coating is with a soft flat hog-hair varnish brush, *used lightly*, working it alternately lengthwise and crosswise of the print, and finishing off so as to avoid streakiness as much as possible. I have sometimes stippled the surface with a badger hair softener, but that, after a little practice has been acquired, will rarely be found necessary. The paper is then allowed to dry, and the next day it will be ready for development. It has just been mentioned that the brush should be used lightly, for if the pigment be brushed heavily into the paper there may be some little difficulty in getting it out again in the development, and, as a consequence, the whites of the picture may be impaired.

THE DEVELOPMENT.—The print is floated, face downwards, on cold water, and allowed to rest for five or ten minutes. At the end of that time, if all has gone well, the pigment will have become loosened in the lights. The picture is then removed and placed on a glass plate under a dribbling tap. The surface is next stroked over with a broad (three or four-inch) flat camel-hair brush, well charged with water, when the color will come away from the lighter portions of the picture. The print should now be replaced on the water, keeping the back dry, for another five or ten minutes, and the brush treatment repeated till the picture is light enough. The development may sometimes be completed in from half-an-hour to an hour, or it may take two or three hours, or even more in extreme cases. If local treatment is thought necessary for pictorial purposes, a small flat camel-hair brush, nearly dry, should be used, or even a soft hog-hair one, such as those for oil painting, may be employed, as the pigment is very adherent to the paper. Should the pigmented coating prove somewhat hard, or does not yield readily, tepid or moderately warm water may be substituted for the cold, but that will seldom be found necessary. Warm or even hot water may also be used

with the smaller brush when it is applied locally to obtain particular effects.

In concluding, I should like it to be distinctly understood that I do not profess that the method of working and the formulæ given, cannot be improved upon, for I feel sure they may be by those interested in the subject. Still, as given, in my hands, it yields technically good results. As I have already said, I am not a worker of the gum process, for, as a matter of fact, I have not produced a single print by the ordinary gum-bichromate process since it was first introduced by Pouncy, now more than forty years ago. At that time I remember I obtained some technically good results with it, but as the process was not of commercial application I took no further interest in it. My interest in the working of the process here described has been entirely of a scientific character—the fact that the action of light once started in one bichromated colloid can be continued catalytically in another and different one, that has received no exposure at all. Seeing that a picture making process could possibly be devised based upon that principle, I was induced to make some experiments with that object in view. Personally, I am not a picture maker, but I thought that the method may be of service to others.

A PSYCHICAL PUZZLE.

By A. SCOTT.

TIME was when to each of the three main divisions of the spectrum, the red, the green, and the blue-violet (or, as it was then, the blue), was attributed a special influence; to the red heat, to the green coolness and, especially in combination with red, luminosity, and to the blue actinism, or chemical action.

So long as the sensitive surface, whether on plates or paper, was slow, requiring for the impression of the latent image minutes instead of seconds, the action was supposed to be altogether confined to the blue, and it was spoken of as "the photographic ray." Under these circumstances the rendering of objects by the camera was necessarily imperfect, the degree of luminosity depending on the quantity of blue in the reflected light; and, the blue being the least luminous of the three, the darker the object the lighter was its representation. In portraiture dresses of luminous yellow and orange came out as darks, while the blues that looked as darks beside them, appeared as white, and the bright greens and brilliant yellows and reds of the landscape and flower border, when impressed at all were only so by the white light reflected from their surfaces, the dark but glossy ivy being much lighter than the lighter colored aspen.

Not knowing how to better it, photographers got accustomed to the false rendering, portraitists advising their sitters as to how to dress, and landscapists "letting it go at that," down to the present time, when true

values in the sense of something like true degrees of luminosity is easily within their reach, and therein is the "psychical puzzle."

With more sensitive emulsions came the knowledge that actinism was not altogether confined to the blue, or, as it is now known, the blue-violet, but that it extended, although in varying degrees, throughout the whole length of the spectrum; and, what was of still more importance, the knowledge of how to increase the sensitiveness of both plates and films to the two less actinic rays, the green and the red, and their combinations, and the introduction of practical orthochromatism made nearly perfect by the color filter.

Such color sensitive plates and films, known as orthochromatic, isochromatic, polychromatic, etc., are now and have been for quite a number of years on the market; varying in their degrees of sensitiveness, some to one color or combination, some to another, but all giving much truer rendering than the ordinary unorthochromatized emulsions, especially when the still vastly more actinic blues are partially absorbed by a yellow filter; and herein lies the psychical puzzle, at least 90 per cent. of all the devotees of the camera, including, or perhaps I ought to say, especially, the professional photographers, continue to use the old and imperfect rather than the new and nearly perfect plate. The reader will please to notice that I say "continue," not *prefer*, to use the old plate, as there can be no preference where there has been no comparison, and in that lies the solution of the puzzle; they who continue to use the old and imperfect plate do so because they have got so accustomed to its false rendering as not to notice it, and have never taken the trouble to understand either the nature or properties of the more nearly perfect color sensitive films.

So long as the latent image itself is a mystery the true action of the color sensitive film must be more or less a matter of speculation, but the fact that by the addition of certain dyes to an emulsion sensitive only to the blue makes it sensitive also, although to a less extent, to the green and yellow, and even to the red.

But even the best of the orthochromatic or polychromatic plates so far are still vastly more sensitive to the blue than to either of the other colors, and hence for their best effect it is necessary to reduce its power by reducing its quantity, and it is here that the color filter or screen gets in its work, and one if not the main cause of most of the disappointment that some have experienced in the use of those plates has been the employment of unsuitable screens. The screen should be made to suit the plate, not only to absorb those rays to which it is too sensitive but to just the extent of that over sensitiveness and so balance it that everything will be reproduced in as near as possible to their relative degrees of luminosity.

It will therefore be evident that, as no two brands of orthochromatic plates are alike each should have a screen or filter adjusted to its own particular requirements, and I am glad to see that this is being recognized by the makers of the plates, several of whom have already placed such filters on the market.

The only objection that can be made to the employment of the orthochromatic plate and its adjusting screen, the only way by which photo-

graphs with true values can be produced, arises from the craze for rapidity, as the screen puts snapping practically out of the question. But, in my opinion, that is a virtue rather than a fault. While certain subjects, under favorable conditions, may be more or less satisfactorily photographed by a snap, even they could have been far better rendered by time; and anything that puts snapping practically out of date would immeasurably raise the standard of photography, as at least ninety per cent. of all the modern snapping results in little better than a waste of material.

The question is frequently asked, do orthochromatic plates, used without a screen, give a better rendering than the ordinary plates? I do not know, but hardly think they can. Although more or less sensitive to the green and red and their combinations, their sensitiveness to the blue, both *per se* and in its combinations, is so much greater that exposures are rarely, and indeed can hardly be long enough to impress them without vastly overdoing it; but at the least their rendering without the screen is in every respect as good as that of the unorthochromatic plate, and as they cost no more, keep as well, and are always ready to give true luminosity when it is required; their employment should be universal.

If it be admitted that the ordinary plate is sensitive only to the blue, while the orthochromatic is more or less so to all three of the spectrum colors, and can, by a suitable color filter, be made equally so, and at the same time without the filter will do all that the ordinary plate can, it certainly is a puzzle beyond any solution that I can suggest why makers should continue to make and photographers continue to use the imperfect when the perfect is within their reach.

Some Hints on Portraiture.

VERY many amateurs are apt to fight shy of this branch of photographic work, considering it to lie in the realms of the professional worker solely, and in many cases considering it *infra dig*. This averseness to portraiture is probably explained by the fact that owing to their having had one or two failures, they have got disgusted and left this most interesting branch of lens work out in the cold. Now this need not be so if the worker is willing to take a few practical hints from those who have made a specialty of portraiture, and act upon the same. The following hints are the outcome of my practical work during several years, and I may say that I work entirely without a studio or any special professional accessories, such as elaborate backgrounds, headrests, etc. The golden rule in all portraiture is to have all the conditions under which you work as natural as possible, so that the "sitter" may be perfectly at ease. Never forget this important rule, and you will have the great keynote to successful work. This dictum works in many directions. Here are a few. Don't bring your "quarry" into a dirty backyard with half the neighborhood taking an interest in your endeavor to secure a natural expression on the subject's face. You probably won't do it under these

conditions, and it is far better to save your plates. Rather secure some nice, quiet spot with a shaded lighting, such as a verandah, etc., or else repair to some well-lit room in the house, where you can work in comfort, and without a host of interested people gazing on. Then don't keep your "sitter" sitting for about half an hour whilst you are performing such operations as filling dark slides, fixing camera, focusing, etc., all of which, and particularly the latter, can be done before you request your friend's presence. Always have the camera approximately focused, which you can do on some object such as a chair, etc., and then it will be only necessary to finely focus when the "sitter" has taken his or her position, and, having noticed a satisfactory expression, to at once uncap and the whole operation is over before your "sitter" thought you had time to get ready. In this way one secures a freshness in the face which is noticeably absent when the subject has been wearied by sitting an indefinite time before the lens. Exposures should, of course, be as quick as possible, and to this end one should use the fastest plates and generally the largest lens aperture, as the latter not only allows of a quick exposure, but also lends a pleasing diffusion to the resultant picture.—*Amateur Photographer*.

Photographed at Home.

NO longer is it considered the "proper thing" to go to a photographer, says the New York Press. The leaders of fashion have decreed that the artists shall come to the houses of the sitters, although an extra charge is involved in the new arrangement. Only Fifth Avenue photographers are willing to photograph women in their homes, and the men who do this at-home work must be artists of the first class. These pictures in the home have revolutionized one fashion. Formerly a woman would wear all her jewels and take her stand before the camera in her most pretentious frock, but now these display pictures are tabooed, and the woman dresses simply. A favorite pose with one photographer has the subject in a picture hat, with bare shoulders and wearing a simple string of pearls.

Mother-Love in Pictures.

MORE popular even than the dashing hat and glistening shoulders is the photographing of young matrons with their children. In England these pictures are in great vogue, and the woman who poses wears a house gown suggestive of the calm of the nursery. The photograph of the lovely Countess of Warwick with her daughter was one of the most popular in England. Lady Warwick's arms were entwined about the pretty child, and the picture was sold just the same as those of Ellen Terry, Edna May, and other celebrities. Another woman who is photographed always with her child is Rachel, Countess of Dudley, wife of the Lord Lieutenant of Ireland. The Countess is one of the great English beauties.

ROCHESTER CAMERA CLUB EXHIBITION.

AS will be seen from the following account, which we copy from the *Rochester Democrat and Chronicle*, the Rochester Camera Club held its first exhibition in the Noble Mechanics' Institute, the gift of George Eastman of Kodak fame, from March 30th to April 11th, and the club has reason to congratulate itself on the great success of its first venture.

From the catalogue, for which we have to thank the secretary, it appears that only two prizes were offered by the club, for the best and second best pictures in the exhibition, open, we presume, to all comers, and devotees of "gum" will be glad to know that both were given to prints by that method.

With our doubt as to the wisdom of offering prizes at such exhibitions, we naturally believe that the next best thing to none is the offering of only two, but we regret, for reasons recently and frequently given, that manufacturers and dealers were allowed to undo what the club had partially done in the way of lessening the "medal evil," with the result that, as said in the catalogue, "in some of the classes there was but one picture entered, and in others there was but one competitor," but the sender of the one picture and the one competitor got the prizes, all the same; and we know from pretty long experience the result, generally, of such awards.

Here follows the report of the *Rochester Democrat and Chronicle*:

The opening of the first exhibition by the Rochester Camera Club last night was most auspicious, and the room at the Mechanics Institute was crowded all the evening until closing time at 10 o'clock.

The pictures are hung in the small exhibition room of the institute, on the second floor at the south end of the corridor. The official catalogue shows 200 entries, but there are more than 200 pictures hung, owing to the fact that some of them were received too late to enter.

The prizes were all awarded, the judges being Harvey Ellis, John E. Dumont and A. K. Boursalt, the two latter being club members, but having no pictures entered for competition. The awards of the judges were unanimous. The first prize went to Miss Anna Page Scott for the best picture in the exhibition, "Sylvan Days," No. 117 in the catalogue. This is a gum print in tones of dull green, the negative being enlarged from a small four by five picture taken last summer while in the Berkshire Hills. It shows two nude child figures, rather ghostly in outline, disporting in a shady nook of the woods near a quiet pool. Miss Scott is the art teacher at the Mechanics Institute, and has only recently taken up the camera, more as an aid to her art studies than for anything else.

Miss Scott also received honorable mention for her "A Happy Family," No. 118, showing a cat and kittens feeding, another pretty thing in composition and general harmony. A third prize went to Miss Scott for an eight by ten enlargement on Rotograph paper for No. 119, "Twilight," a study in the Berkshire Hills.

The second prize for the second best picture in the exhibition was awarded to Edward W. Keck, "Monnickendam," No. 74, a gum print of a scene in Holland

This is another example of the extremists in photographic art, showing merely the suggestion of the picture, with all the detail eliminated. It is harmonious, well composed and a brilliant print.

Mr. Keck also has some other excellent pictures, his "Mary" a child portrait study receiving honorable mention.

The catalogue further states that: "The jury express here the regret of not having been able to award a third prize which the excellent picture, No. 32, "Motherhood," by A. H. Gleason, called for a special mention, is awarded to this work by the jury."

Honorable mention is also given to No. 79, "Portrait of Miss D.," by H. H. Kingston, Jr.; No. 37, "An October Landscape," by A. H. Gleason, besides the others already mentioned.

Special prizes were awarded as follows, for pictures on Defender paper and given by that company: First prize to No. 128, "A Cooper Shop," by William R. Shaffer, treasurer of the club. Second prize, to Ralph S. Paddock, No. 97, "Gossip," best portrait, No. 129, by William H. Shaffer; best group, to No. 20, "Mother and Child," by A. H. Cobb; best landscape went to William H. Sheffer, for No. 130, "October;" best flashlight went to Irwin Taylor, for No. 137, "Strike While the Iron Is Hot."

The novice class was won by Miss M. B. Penfield, for No. 105, a portrait; the following were the awards for pictures made on Rotograph paper: For No. 141, "Dealing in Futures;" No. 8, "The Immigrant," by W. W. Bissell. Mr. Bissell also received the only prize awarded for pictures on Rotox contact, for his No. 8, which won in two classes.

For pictures on Kuhn & Co.'s platino paper there was but one entry, by Irwin Taylor, who received first prize for No. 142, "Ready to Play a Joke." In some of the above classes there was but one picture entered, and in others there was but one competitor. The members of the club were much handicapped in having to use certain makes of paper in order to compete for prizes, and as many of them did not fully understand the conditions, the entries in various classes were small.

There is a special exhibit by John E. Dumont, president of the club, who did not enter for competition, and whose work has been shown and received prizes in some of the most exclusive salons in this country. The only professional exhibiting is Miss Frances Benjamin Johnstone, of Washington, who has five pictures hung that are very pleasing.

There are seven exhibitors in the loan collection of the Photo-Secession of New York, and their work is attracting much attention. Edward Steichen, of New York, shows four pictures. The most notable study he shows is a picture of Rodin, the sculptor, at work. The treatment is unusual, having the portrait in the foreground, which is nothing but a silhouette against a mass of light background, very mysterious in outline, giving an unusual and striking effect. *

Mrs. Gertrude Kasebier, of New York, shows three pictures, one a portrait of a child, being a very artistic and harmonious composition. Alfred Steiglitz, of New York, has also sent four pictures, the most interesting of which is "Gossip Katwyn," showing two peasants of Holland standing on the shore with the surf rolling high, and the spars of a fishing boat just visible.

It is stated by Mr. Dumont, who is most familiar with all of the photographic exhibits ever held here, that this of the Rochester Camera Club is by far the best, largest and most meritorious of any ever held in Rochester. Harvey Ellis, whose ability as an art critic is recognized by all, says that there are just as good pictures shown by the local exhibitions as any from out of the city, and that more than one-half of the pictures hung are as good as those shown in any of the salons in the country, not excepting New York and Philadelphia, which rank among the highest in merit.

All of the members feel that the exhibition will be an inspiration and that it cannot fail to raise the general standard of the work, which is already very high. The exhibition will continue until April 11th, afternoon and evenings, and is free to the public.

* *The Democrat and Chronicle* is mistaken regarding the background of the portrait of Rodin. Instead of being "merely a mass of light, very mysterious in outline," it is a cast of the well-known Hugo statue.



MEETING PLACE OF NEXT CONVENTION AT INDIANAPOLIS.

THE COMING P. A. OF A. CONVENTION.

The above picture represents Das Deutsche Haus (German House), in which the twenty-third annual convention of the Photographers' Association of America will be held at Indianapolis, Ind., August 4, 5, 6 and 7, 1903. There is a very commodious hall and ample accommodations for the holding of the convention.

The executive board has worked incessantly, and a very instructive programme has been arranged. Every photographer will derive great benefit from listening to the lectures and demonstrations that have been arranged for. There will also be a grand display of the work of leading photographers of this and foreign countries and also of apparatus from all the leading manufacturers.

The amusement committee has worked hard and faithfully, so that all will leave the beautiful city of Indianapolis feeling that they have been well taken care of, well repaid for their efforts, and that all expenses incurred are more than offset by the increased knowledge gained and the very pleasant time enjoyed.

Bring your wives or sweethearts and they will be taken care of. Arrangements will be made with the hotels and railroads which will be announced later.

Remember, that the photographer, manufacturer or dealer, who is not represented at the big National Convention, this year, announces to the world that he is not keeping pace with the times. Are you keeping the pace?

Those promises you made about sending in an exhibit should be kept, and don't forget that one promise fulfilled is better than a thousand broken ones. So get in line and help keep the pace.

Make up your mind to go now. Get to work on your exhibit; do not put it off until too late and do not forget to write the secretary and tell him that you are going.

Very respectfully yours,

GEO. G. HOLLOWAY,

Secy. P. A. of A.

Terre Haute, Ind.

THE NEW KODOID PLATE.

By the introduction of the Kodoid plate, the Eastman Company has removed a weight from the mind as well as from the back of the tourist photographer. No longer need we suffer from the exertion of lugging along several pounds of glass, or the annoyance of having highly prized negatives smashed by baggage handlers.

The Kodoid plate combines all the advantages of the glass plate over roll film, such as simplicity of handling, ground glass focusing and single development, with the additional valuable qualities of non-halation, lightness and non-fragility. Besides this the film is orthochromatic to a high degree, being very sensitive to the greens and yellows, and thus admirably adapted for landscape work. It is also slightly sensitive to red and orange, so much so that only a very light color screen is needed to secure correct rendering of the tone values at this end of the spectrum yet is it safely handled in the dark-room in a light that ensures comfort in working. No special care is required in development; in fact, Kodoid plates are more easily handled in the tray than roll film or glass plates. After the final washing, however, care must be taken that neither side of the film comes in contact with anything until dry. This is because both sides have received a coating of gelatine, thus obviating any tendency to curl and no glycerine bath is necessary. Instead of being pinned to a board to dry, the film must be hung up by clips to a string or a pin stuck through one corner into the edge of a shelf or other projection.

In speed, Kodoid plates are about equal to Seed's 28-X, but being non-halation there is more latitude in exposure than with ordinary glass plates.

The accompanying pictures were selected on account of the diversity of colors in the subjects and the tendency to halation, and the original prints prove that the plates are fully able to cope with both conditions. The Kodoid plate is a long stride towards perfection and should become deservedly popular.

J. P. CHALMERS.



Negative on Kodoid Plate.

J. P. Chalmers.

"VIEW IN PROSPECT PARK, BROOKLYN."



Negative on Kodoid Plate.

J. P. Chalmers.

"VIEW IN PROSPECT PARK, BROOKLYN."

OUR PORTFOLIO.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y. During May to Clifton Springs, N. Y.

1503. Rev. S. S. Conger.—"The Bachelor's Reverie" is one of those suggestive pictures sufficient to start a train of thought that widens and broadens *ad infinitum*. It is the gloaming, the thinking-time, too dark to see distinctly the details of the interior, yet hardly dark enough to light up. The "bachelor," too young to be thinking of the might-have-beens, is probably endeavoring to see how best to bring about the may-be. Pose and expression combine to show the seriousness of the subject; and as the only light comes from the fireplace before which he sits, the eye is not troubled with unnecessary detail, there being just enough to properly tell the story. We like the picture very much, although like even the best of its kind, it is not altogether free from faults. The high fender in front of the fire is more suggestive of babies than bachelors, and we hope that before he brings a better-half home he will be able to send for the smoke curer; there being an uncomfortable amount of smoke finding its way into the room. We presume that magnesium has been the source of light with hardly sufficient draught to carry all the fumes up the chimney, a fault easily avoided in future, and which a little local reduction would remove from the negative of this.

The "Bachelor's Reverie" is excellent both in design and execution, although we are not sure as to what the engraver will say as to its suitability for his work. (See page 205.)

1504. C. H. Brooks.—"Swift Water" is an excellent subject with one serious fault, the horizontal line of the dam going right across the upper half of the print. It is never well to so perfectly repeat the upper and lower margins. Development has been stopped just a little too soon; a very little more would have given just the necessary degree of contrast. Even now a slight intensification of the negative might do all that is required. The running water is admirable, and its angle to a certain extent contrasts with and lessens the fault of the horizontal dam or weir, but a differ-



ent view point might have given a better composition. You have done so well, however, that we are quite sure that with a little more careful study you will do better.

1505. H. C. Heidrick.—"In Snowy Garb" is another of those subjects that would not have been thought worth photographing, certainly not from this point of view, unless for the snow, and although this is fairly well reproduced it does not in any sense give the subject pictorial quality. As a record of fact, however—and the recording of facts is a most important phase of photography, it is excellent. The two seconds exposure with F-16 on a bright sunny day has been so developed with pyro and acetone as to represent both snow and trees in something like their natural tones. The trimming of about two inches from the right would be a decided improvement, giving concentrated instead of scattered interest. In photographing this we should have included only what would remain after such trimming, made it an upright and employed F-8 with a view to a suggestion of atmosphere; and given it human interest by a suitably placed figure, or in the absence of that, a trodden path. (See Frontispiece.)

1506. H. W. S.—"The Road Through the Valley" at any of the earlier photographic exhibitions would have to a certainty carried off a first-class prize. It is a good selection excellently placed,



with an interesting foreground, and has been exposed and developed so as to give fairly true values, altogether an example of nearly perfect technique. But the aperture "64," by which we suppose you mean F-32, and the careful focusing of an apparently fine lens has resulted in a "needle sharpness" that from a pictorial point of view is really painful, and a lack of the slightest indication of atmosphere that is fatal, an effect intensified by the perfectly white sky.

We do not say this, however, to discourage you; indeed, we congratulate you on having so thoroughly mastered technique; because while it is a power that must be employed with caution and kept under control, the pictorial photographer who has it not is only half equipped for his work. You might easily get a much more artistic print from this negative by first reducing the sky so as to considerably lower its tone, or even give a suggestion of clouds; and then print with a sheet of celluloid between paper and negative. Then don't trim to an oval unless you have a good reason therefore, which does not appear here.

Study some good book on art, and always employ the largest aperture that will give the kind of definition you desire; with F-8 or F-11 true pictorial effect is generally more easily secured than with F-32.

1597. N. Barnes.—"Woodland Path" is a fine subject beautifully placed, but to a large extent spoiled apparently by over-development. The lights are all uniformly high and so scattered all over the print as to make it, at a little distance, simply gray; almost any one of its twenty square inches containing just about the same quantity—we might say the same number—of lights and darks, the former much more numerous than the latter.

A serious fault, too, is the figure and its position. We have often said that the introduction of figures into landscapes is risky, and in this we have a good illustration of the fact. While



too distant and consequently too insignificant to form a motive or objective point, it catches the eye and tells as clearly as if by spoken words that it is standing to be photographed, instead of, as figures so introduced should, suggesting the action of close connection with the subject. Had development been stopped at the proper time, *i. e.* as soon as only the few high lights became opaque, leaving the other and lesser lights each in its own degree of density, this would have been a really fine photograph, and the figure in the right position and suggesting the right action, or, failing that, been left out, it might have risen to the dignity of a good picture.

1598. F. Chastom.—The unnamed print is a fairly good subject spoiled from the same causes as your last, under-exposure and consequent over-development. And it could not be otherwise with F-16, 1-5th of a second in a poor light. It puzzles us to see how you do not see as well as we that the sky, the lighted parts of the water, and much of the matter on the right foreground are simply white paper, while trees and shadows are as black as the paper can be made. Under the conditions at least one second was required, and we should most likely have given it two. You say "if you



look closely into the picture you will find I have very good detail in my shadows," but detail that needs to be closely looked for is not enough; nor is it that lack of detail that we complain of, but the lack of light; the only detail we can find is certain markings on the bark of the near tree on the right, and it is only faint white lines. Don't bother about pictures till you have learned how, by sufficient exposure, to get true values; that is, how to get the various objects of your subject in their relative degrees of luminosity. Study carefully the article on "Exposure and Development" in our January and February numbers.

1599. Dr. F. E. Weeks.—"Snow-Bound on a Gray Day," is one of the very few attempts at the reproduction of snow scenes that come to us anything like sufficiently exposed; but it, unfortunately, is too much like the majority in being a subject of so little interest pictorially that but for the snow it would not have been thought "worth a plate." Aside from the subject, however, and excepting the snow, it is a very good example of the "record of fact" phase, quite as interesting and often more useful than the pictorial; but in the reproduction of the snow there is room for improvement. In the first place the tone is at fault, and the fault is intensified by the *warm* instead of *cold* tone of the paper itself. Then, there is really no difference between the tones of snow and sky, and, worse still, the former is without a trace of texture, always present and absolutely essential in its proper reproduction. And that want of texture is due to improper development, probably to too great a proportion of the reducer in the solution, and certainly

to its having been continued too long. *Snow is never properly represented by opacity in the negative.* If, before exposure, you had trodden a path from near the left foreground with a turn and up the inclined platform or temporary bridge, and then stopped development at the proper time, the effect would have been very different, very much better.

1600. John Hulshart.—"Lake Pochung" is a fine subject excellently selected and placed, and with that rarest of charms in photographs of this kind, unmistakable atmosphere. But the photography might have been better. We do not allude to the white specks scattered all over the print, although we prefer prints as perfect as you can make them, but to the want of even a suggestion of definition where it was necessary to distinguish between the objects and their shadows, especially in the middle distance. Nor is this from want of focusing, as is seen from the detail in the bark of the tree, but from focusing on the wrong part, and from too deep printing of a too thin negative. The sky is also faulty, especially at the top, the wavy dark line, trifling as it is, being sufficient to catch and keep the eye from the more important parts of the picture. The sky line would make the printing in of clouds easy, and suitable clouds would go far to cover the other faults.



We congratulate you, however, on the picture in spite of its faults of technique, as the eye that saw this will see others of a like good quality, and technique is now so easily acquired that you need only a little more careful study to do excellent work. The other prints shall be noticed, one in June, the other in July. In future please observe the notice at the head of this column.

1601. S. M. Schrimpf—"Between Two Storms." This has the common fault of including far too much in a small space, with not an object or part of more interest than another. It is a fairly good photograph of a subject of no particular interest, and one that you certainly would not have thought of photographing, except for the snow. Your technique is all right, but you have yet to learn how to see; how to select a subject amenable to pictorial treatment, and especially to recognize the advantage and beauty of simplicity. The less you have in a composition the easier it will be to manage it. The right half of this, for example, on a larger scale and as an upright, with a trodden path starting at the foreground and going round the end of the fence, and, say, with a man and a dog, would have suggested much more than was seen, and given it some claim to the pictorial.



slightly too dark water of the longer dam.

1602. W. H. Blacar—"The Dam" is the best thing that you have as yet sent; its only real fault being the lack of atmosphere. It is a fine subject, well placed, and from probably the very best point of view. We should have printed in a warmer color and carried the development of the negative a little farther so as to increase contrast. Good as it is, however, twenty-five per cent. longer exposure would have made it better; lighted up the rather dark shadows, and especially improved the

1603. H. F. Porter—"Child Study," a young girl intently looking at an apple is a creditable effort, after the better side of the new or "American School," and what may in more senses than one be characterized as a "growing" picture. Growing as indicative of thought, practice, progress, and promise on the part of the author, and growing in the sense that the longer we look at it the more we see in it, and the better we like it. The only fault is in the hand, with its too assertive finger and its apparent magnification, the result probably of the employment of a lens of too short focus. Pose and thoughtful expression are admirable, and with more careful management of the hand we should have had nothing for it but praise.

OUR TABLE.

Books for reviews and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y. During April to Clifton Springs, N. Y.

Bayer Photographic Products.—We have already favorably noticed the Bayer additions to *materia photographica* sent for trial by the American agents, the Farbenfabriken of Elberfeld Co., 40 Stone St., New York, and now have to thank them for an enlarged pamphlet giving fuller information and additional formulæ for their

employment, as well as the opinions of some of our best-known men as to their qualities. The pamphlet is to be had for the asking, and it is well worth sending for, as the more we use the preparations, especially the edinol and the acetone sulphite, the better we like them. We have also been employing the Bayer flashlight powder with great

satisfaction, as in addition to its actinic power it seems to produce far less "smoke" or suspended matter in the room. In proof of this we may say that recently a stageful of people were successfully photographed by an ounce and a half, ten minutes before the opening of the doors of the theatre without leaving a trace observable by the assembling audience.

* * *

Camera Work, for the quarter beginning in April, may be said to be a Steichen number, the illustrations being altogether selected from his work, and eleven of the twenty-eight pages of reading matter devoted partly to its "appreciation" and partly to an appreciation of himself.

Of the eleven examples of his work we positively fear to speak; they are simply beyond our comprehension. "They came to scoff but remained to pray," may convey some far away idea of our attitude, although, knowing how they had affected others scoffing was out of the question. They were turned over hastily one by one, then more slowly, and with a strange mixture of feelings that photographs had never before induced. Doubt gave place to wonder, to a kind of fascination that compelled analysis or search for hidden meanings, giving pleasure akin to that experienced as we near the solution of an intricate puzzle. In short, the study of those pictures occupied many hours that we could ill spare, with the result that we are better than ever able in some degree to understand and appreciate the work of the Photo-Secession, or the "American School."

Hardly less interesting is the reading matter. Charles H. Callin and Sidney Allan write appreciatingly of Steichen and his work, and both throw considerable light on the latter. Eva Watson-Schutze pleads rather weakly against painters and in favor of photographers as judges at salons, and the editors put themselves right on the same subject; *i. e.*, they object only to those painters who know nothing about photography and do not take it seriously, but welcome as "*the ideal jury*" those of them who are untrammelled by prejudice and are acquainted with photography's scope and limitations.

Taking it all in all, with the exception perhaps of a rather lengthy article in which there is nothing new on photography in colors, and which seems foreign

to the genius of the magazine, this number of *Camera Work* carries on more thoroughly the aims and objects of its predecessor, *Camera Notes*, and well deserves the encouragement and support of every lover of pictorial photography.

* * *

The Photo-Minature for March tells of "Commercial Photography," the photographing of anything anywhere, in contradistinction to portraiture in the studio, although the latter is sometimes commercial enough in all conscience.

Commercial photography, as dealt with in this number, or much of it at least, is the kind of work aimed at by amateurs anxious to make their hobby self-supporting, and as the writer evidently writes from experience, his writing cannot fail to be helpful.

For once, the illustrations in the *Photo-Minature* have some relation to the text, and as they are the work of the author of the monograph we wish for his sake, that some of them had been omitted, especially the two between pages 588 and 589. Such black trees in such white water and against such white skies are not likely to please an employer.

* * *

It will pay you to send for the little booklet of the Voigtlaender Opt. Co. on "What Taylor Taught Me," a novel treatment on a subject which baffles many amateurs. Taylor is a mine of information on flatness of field, astigmatism, speed and color correction and the many other points of the modern anastigmat. The subjects are treated in a way which appeals to the merest novice and once taken up will not be laid away until finished. Copies of the little booklet may be obtained of the Voigtlaender Co., No. 137 W. 23d Street, New York, as well as their general catalogue of Collinears, now ready.

* * *

The Prosch Manufacturing Company announces its removal on May 1st from 389 Broome Street to new and larger quarters at 145 to 151 West 18th Street, New York City. This company has been located at the old address throughout the past seventeen years, and during that time it has placed on the market several of the most successful photographic shutters and magnesium flash lamps ever offered to the photog-

rapher. These include the original Prosch shutter, the "Duplex," and the later models, the "Triplex," "Athlete," "Triplex-Stereoscopic," "Athlete-Triplex," and the new "Diaplane" shutters, as well as the "Lightning," "Professional" and the new "Prosch-lite" Storage Flash Lamps. These products will now be manufactured on a much larger scale. With its greatly increased capacity, additional modern machinery, and ample space, it will be able to fill orders much more promptly than in the past.

The newest Prosch shutter is the "Diaplane," which is made in two styles, called the "Diaplane I," for amateurs, and the "Diaplane II," for professionals and advanced amateurs. The "Diaplane I" has a range of speed from time and bulb and slow instantaneous exposures to 1-200th of a second, and ranges in price from \$17.00 for the No. 1 size to \$22.00 for the No. 6. This is the best shutter ever offered to the amateur. The "Diaplane II" has an extremely wide range of speed, its maximum being 1-600th of a second, actual time. This is the best and most widely serviceable shutter ever offered to the professional. Send to the Prosch Manufacturing Company, 149 West 18th Street, New York City, for the new "Diaplane" Shutter catalogue.

* * *

Bausch & Lomb Optical Company, Rochester, N. Y., advise us that there seems to be some misunderstanding among those who would like to enter their Three Thousand Dollar Quarter Century Photographic Competition, with regard to the basis of judging, as to whether the awards will be made to those whose work corresponds with their own particular ideas of photographic excellence, or with those laid down on the basis of judging adopted at the time of issuing the original offer and which are embodied in a booklet which can be had by anyone desiring to enter the Competition, on request. Bausch & Lomb Optical Company wish to state that as this competition is one intended to demonstrate the photographic possibilities of high grade lenses, it was thought best to adopt at the outset a basis of judging which would give the competitors, not only an idea of what was aimed at in establishing the Competition, but the basis upon which prints would be judged, and this

basis will be strictly adhered to by the judges in making their awards.

* * *

The click of the opening of the shutter has often spoiled what would otherwise have been a fine portrait. The strained and expectant look or sudden movement of the body occasioned by the sound is responsible for more spoiled plates in the studio than any other defect in the photographer's outfit. Practical men, realizing this, have devised the "Silent Shutter," a device which is unerring in its action and noiseless. The photographer, as he moves around his camera, bulb in hand, seemingly intent on getting his position and meanwhile keeping up a conversation with the sitter, makes his exposures unknown. When the sitter is ready to assume the strained position to be "took," he is informed that it is all over. More information regarding this excellent device, which can be readily attached to any camera, may be obtained of the Conley Camera Co., Spring Valley, Minn.

* * *

Messrs. Folmer & Schwing, 407 Broome Street, New York, feeling that they had sufficiently outdistanced all competitors in the manufacture of high-grade photographic apparatus, have made no material changes in the existing models of their well-known Graphic cameras this season. The Graphic camera of any model is therefore an article of standard value and as an instrument capable of obtaining the best results, under all conditions, as appreciated and used by the best photographers in the country. The Graflex is meeting with such deserved popularity that the factory is taxed to its utmost in keeping pace with the demand. A new model of this high-grade instrument, the Stereo Graflex, is now in process of manufacture, of which we shall have more to say in a later issue.

Wynne's Infallible Exposure Meter Competition.

We have pleasure in stating that the Wynne Infallible Exposure Meter Company have decided to offer four sets of prizes, each set consisting of one infallible exposure meter in solid silver and one infallible print meter in nickel silver for the first and second best print in

each of the following classes, printed from negatives secured or timed by the use of the Wynne Infallible Exposure Meter between April 15 and October 1, 1903:

- (1) Landscapes, including all outdoor work except marines.
- (2) Marines.
- (3) Interiors, including all indoor work except portraits.
- (4) Portraits.

Pin holes or blemishes may be spotted out, but otherwise the negatives must be printed from as they were when taken from the drying rack.

Technical excellence only will be considered in making the awards, except in the case of a tie, when it will be given to the more artistic print.

On the back of each print must be noted the actinometer time, plate and stop employed. Time of day, time of exposure, and light conditions, with name and address of competitor, and where a color screen has been employed, that should be stated.

Any number of prints, preferably unmounted, may be submitted in each class, and they will be returned only in cases where stamps have been sent for that purpose.

The competitive prints must be sent, prepaid, to the American agent of the Wynne Infallible Meter Company, Henry Wenzel, Jr., 237 South Fourth street, Brooklyn, N. Y., from whom any required information may be obtained.

The Cleveland Salon.

By E. J. HOSKIN.

The Cleveland Camera Club is young yet, it having been organized only ten or eleven months ago. This fact, however, does not seem to have hampered it any in the preparation for and carrying to a successful conclusion a photographic salon which was a credit to them and to the exhibitors who were fortunate enough to receive the approval of the jury of selection.

The response to the announcement of the salon was very gratifying and about five 500 pictures were passed upon, out of which 167 were hung, representing 55 contributors. The rest were displayed on the walls of the club's headquarters in the Caston Building and made an interesting collection by themselves.

In addition to the 167 pictures mentioned above there was a loan collection

of 14 framed representing the Photo-Secession; 46 pictures were by 13 Cleveland workers, 20 of which came from the jury of selection, the rest representing a wide field, coming as they did from Toronto, New York, Philadelphia, Detroit, Chicago, Akron, Denver, etc.

The effect of this exhibition on the art side of photography is hard to determine, but was undoubtedly uplifting and educational. All such exhibitions, if not governed by the views of extremists, are beneficial and should be promoted and encouraged. Some have expressed the opinion that a salon, *i. e.*, a real dignified Salon, with big "S," should not be held oftener than once in three years, and have deprecated the fact that so many exhibitions were being held annually by the clubs of the country under the name of salons. I do not concur in this. If proper attention is given the selection of the jury and a high standard of merit maintained the salon is entitled to the name and the annual occurrence of such exhibitions, together with the comments and reproductions of the magazines develop the growth of pictorial photography much more rapidly than anything else could do.

The Cleveland Salon was a success pictorially and financially, and the Salon committee deserve great credit for its successful consummation. The standard of excellence was kept high and those who passed inspection were entitled to the honor by reason of merit.

Among the pictures which appealed most strongly to me were:

"Homeward at Evening," by F. C. Baker; "At the Dock," by A. C. Bates; "Ravvy and Caddy," by Curtis Bell; "At the Spring," by Mrs. Jeanne E. Bennett; "A Study," by George Donehower; "Departing Day," by F. B. Hargett; "Oranges," by Tom Henning; "The Sea Hath Its Pearls," by R. H. Kimball; "A Newsboy at Night," by Lee Hamilton Keller; "Autumn," by Geo. F. Kunz; "Meadow Brook," by J. Dwight Palmer; "Zuleika," by Carl E. Semon; "Coaling Up," by F. R. Lockart; "Eventide," by Arthur W. Wilde. Some of these are familiar to the magazine reader, though reproductions; others are not, but all of them express the individuality of the maker and consequently differ widely in character.

The loan collection from the Secessionists attracted considerable attention and were given a space by themselves.

SOCIETY NEWS.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Clifton Springs, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest to our readers.

The Akron Camera Club's Fifth Annual Exhibition.

The fifth annual exhibition of the Akron Camera Club was held in the club's commodious quarters April 13th to 20th. The committee in charge departed from the usual custom of former years to invite contributory exhibits from clubs and individuals abroad, and the exhibition was confined exclusively to the club membership.

This was done to give the members an opportunity to show what they could do by themselves and to furnish an incentive for good work. The call for pictures received a hearty response, and the committee soon had their hands full. The walls being papered with a plain paper of a light tint, furnished an excellent background for hanging the pictures, and when they were finally all arranged in their proper places it was found that 154 frames had been submitted, and the club rooms took on the appearance of a salon rather than a club exhibit. Many of the pictures here gathered together have been honored in more pretentious exhibitions and salons, among which may be mentioned Chicago, Minneapolis, Philadelphia, Los Angeles, San Francisco, Cleveland, Haverhill, Toronto, etc.

No catalogue was issued, but each member's pictures were hung in sections by themselves and his name, on a neatly printed card, placed among them.

The following members of the club were represented in the exhibition: C. M. Knight, F. B. Hargett, E. J. Hoskin, Chas. F. Smith, H. J. Truscott, John W. Schuler, Ed. M. Adams, Ed. W. Terrass, August F. Vaupel, Henry E. Canfield, Geo. F. Kunz, Harry B. Houghton, J. Dwight Palmer, J. G. Grant, C. C. Coleman.

The committee who carried the exhibition to a successful conclusion were J. Dwight Palmer, Chas. F. Smith, J. G. Grant, F. B. Hargett and C. C. Coleman.

Camera Club of New York.

The last meeting, which was the annual meeting, of the club held in the old quarters, No. 3 West 29th street, occurred on Tuesday evening, April 15th. President C. H. Crosby presided. Owing to the inclement weather the attendance was not as large as usual.

The annual reports of the officers were read and approved. The membership report of the secretary, E. Lee Ferguson, showed that there had been a net loss during the year of fourteen active members (one by death) eight non-resident members and one honorary member, making a total of twenty-three. On March 31st, 1903, the total membership was three hundred and eleven, consisting of 200 active members, 76 non-resident members, 20 life members and 15 honorary members. There was held during the year ten regular and special meetings of the Board of Trustees, and ten regular meetings and one special meeting of the club.

The annual report of the treasurer, Mr. William E. Wilmerding, up to April 1, 1903, approved by the auditing committee, consisting of Henry H. Man, J. C. Vail and C. S. McKune. The receipts from dues, locker rentals, *Camera Notes* and all other miscellaneous sources were \$8,511.97, slightly less than the previous year, while the expenses which covered rent, \$3,024; services, \$779.25; light, \$422.12; library, \$397.15 and the large item \$2,159.36 for the publication of *Camera Notes* as well as several other expenses of a minor or special character, amounted to \$9,307.81, which, with the balance on hand April 1, 1902, left a balance on hand April 1, 1903, of \$1,963.41, something like \$800 less than the previous year.

After the reading of reports a committee was appointed to consider the matter of the publication of *Camera Notes* and report upon it at the next meeting of the club in May.

The annual election then took place, thirty four votes being cast for the

regular ticket with one or two exceptions. The ticket elected is as follows: President, Chauncey H. Crosby; vice-president, Frank S. Gerrish; secretary, E. Lee Ferguson; treasurer, H. T. Rowley; trustees, for three years, Malcolm Stuart, Dr. James T. Vredenburg; committee on admission, H. T. Lockwood, Francis C. Elgar, M. W. Seaman.

After the election President Crosby made a few remarks on the club. He considered that every member should take an interest in the club as a whole and work to that end. There had been evidences of lack of loyalty to the club which was a wrong way to regard it. It is the institution as a whole, and its work in that regard in promoting photography in its broadest sense which should be kept in view. He believed that all should strive to maintain the honor of the club in all its undertakings. So far as he could, he should endeavor to have the club represent all that is best in photography and promote fellowship and good feeling among the members.

Mr. Stark proposed a resolution that the club hold an international exhibition of photographs in 1904. It was thought well of and was referred to the Board of Trustees for further consideration. The meeting then adjourned and a farewell was given to the old quarters by a light luncheon. The next meeting of the club will be held at the new quarters, No. 5 West 31st street, in May, where there are two floors (8th and 9th) and a studio on the roof. It is fitted up very completely with excellent dark rooms and other conveniences for work.

Athens, Pa., Camera Club.

The Athens Camera Club continues to carry on its operations with an energy that sets the example to clubs in much larger towns. Nor does it keep its good things altogether to itself or hide its light under a bushel, as on a recent occasion they carried their excellent acetylene outfit to Sayre and gave the denizens of that railroad centre one of their popular lantern slide exhibitions, which was honored by a deputation from the Camera Club of Elmira.

After the exhibition the Athenians and their Elmira friends adjourned to the Athens club rooms, where refreshments were served in a unique and appropriate manner. Sandwiches and

cake were passed in toning trays, and developing trays were utilized as plates. A large fixing box did duty as a punch-bowl, from which fruit punch was served in graduates. The process of "reduction" of the "supplies" was successfully accomplished, and at one o'clock the visitors left for home with their fraternal feeling for their hosts much "intensified."

A monthly exchange of photographs for the purpose of inspection and criticism has been arranged for between the Athens and Elmira Camera clubs. At one of the meetings each month the members of each club exhibit pictures taken by themselves, which are then sent to the other club to be examined and criticized. A vote is also taken for first and second choice for artistic and technical merit. This plan was put in operation for the first time at the meeting of the Athens Club held last evening, when 18 excellent prints, sent by the Elmira Club, were shown.

The Manhattan Camera Club.

New York is large enough, and there should be interest in photography enough for many healthy and prosperous Camera Clubs.

We therefore gladly print the following circular, only regretting that it does not contain fuller information.

The officers of the club are: president, Henry Vier; vice-president, W. T. Knox; secretary, M. S. de Moya; 612 St. Nicholas avenue; treasurer, Alexander Graham; librarian, W. V. Case; and the board of directors: H. S. Jones, Dr. W. J. Furness, R. L. Dieste, S. C. Bullenkamp, and T. H. Woolverton.

The Manhattan Camera Club was organized in October, 1902, and on January 1st moved into permanent quarters at 57 East 125th street. The objects of the Club are the cultivation and advancement of the art and science of photography and the promotion of social intercourse among its members.

Gentlemen, eighteen years of age, or over, are eligible to membership. The initiation fee is two dollars, which must accompany the application, and the dues are one dollar per month, which is as low as is consistent with the maintenance of commodious club rooms, equipped with all necessary photographic apparatus and providing proper working facilities.

Meetings are held every Monday

evening; the first in each month being devoted exclusively to the transaction of business, and all others given to lantern slide exhibitions, lectures, demonstrations and the discussion of matters pertaining to photography.

The club rooms are handsomely furnished and decorated with choice specimens of work by the members. The dark room is a model of convenience and contains every requisite for successful negative making. Keys are furnished to each member, permitting free access to the rooms at any hour of the day or evening and lockers for personal use are provided at a rental of one dollar per year. A caretaker on the premises insures the comfort of members at all times.

Beginners are always cheerfully assisted by the more proficient members in the various processes of picture

making, and by this practical instruction obviate the waste of material and discouragement incident to lone experimenting. Exhibitions of prints and slides, which are held at intervals, afford opportunities for comparing the standard of each member's work, and many individual ideas then displayed may be profitably adopted by other members. Outings are given at stated times to nearby centres of picture-taking interest and strangers are invited to accompany the Club on these occasions.

The Club rooms may be reached by all surface and "L" roads and are admirably located for the convenience of members residing on the lines of the New York Central Railroad. Wednesday and Saturday evenings are regular visiting nights, but visitors are welcomed at any time.

LETTERS TO THE EDITORS.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Clifton Springs, N. Y.

DEAR SIR: In the March number of the AMERICAN AMATEUR PHOTOGRAPHER is a portrait by Edouard Steichen. In all seriousness I would like to know your reason for publishing it. Do you give it to your readers as a model and advise them to strive to produce similar pictures? Do you know of any eminent portrait painter who painted such portraits? I have been in most of the large galleries in this country and in Europe, but do not recall seeing any such portraits. Last of all, do you admire such a portrait? Awaiting your answer in your valuable journal,

Very truly,
J. G. GRANT, M. D.

Instead of replying in the "Answers to Correspondents" column, as requested, we give your letter this more prominent position because it is one of nearly a dozen all in the same strain, and as doubtless there are many others who feel as you do who have not written but who as readers are equally entitled to know our position in the matter, and with whom doubt as to that position

might tend to lessen whatever little influence we may have as a teacher.

Reversing the order of your queries, we take the last first, and say we do not admire the portrait referred to, and the same applies equally to several others of the like class that we have from time to time reproduced, in which suppression had not been carried nearly so far. We know of no eminent portrait painter who painted such portraits, nor have we ever in any gallery or collection seen such paintings unless where they had been practically obliterated by age and misuse, and we certainly do not give it as a model and advise our readers to strive to produce similar pictures.

But although we do not admire the portrait or its class generally, that may be our fault, or our lack of the necessary art culture, as it has been favorably spoken of by some of the best known critics both here and in Europe, and was one of a series by the same artist accepted for exhibition in the *French Academy*, the greatest honor ever conferred on photography, although the

hanging committee found means of preventing their being hung, not because of their quality, but because they were photographs.

That of itself would have been sufficient reason for the insertion of the picture, but there were others. Steichen is one of the leaders in the so-called American School, and our readers are entitled to see what that school stands for. The magazine is intended to be a record of the progress of photography in all its phases, and while some of its departments, such as the "Portfolio," are purely personal, a record of our own opinion, others may show beliefs, methods, and appreciations wide as the poles.—Eds.]

The Electric Ruby Light.

Editors AMERICAN AMATEUR PHOTOGRAPHER:

I desire to express through the medium of your paper, my thanks to Mr. Liscomb for the information regarding his storage battery. In my previous communication, I did not mean to criticise his battery, but as he volunteered the information in the first place for the benefit of all amateur photographers, I hope I may be pardoned for again stating that his explanation did not explain, at least not sufficiently so for the purpose intended. I am quite safe in stating, and believe, that Mr. L. after a little consideration must agree with me, that not one amateur photographer of a hundred, unless he has a knowledge of things electrical, could have successfully constructed a storage battery from his description in your February issue.

I have, myself, made a similar battery for use at home where I have not the benefit of electric light, but have abandoned its use on account of the nuisance of having to take it quite some distance to my place of business to be recharged.

This, of course, does not necessarily apply to Mr. L. who perhaps, is within easy reach of his source of electricity and has access to a "4 V. 750 amp. dynamo" that is probably used in his business. How many amateurs, however, would have access to such a machine? To charge from an ordinary commercial circuit of 115 V. would be a slightly different proposition.

■ The ruby bulb—oh, yes, I know now what I have known for some time, and that is, that the ordinary ruby lamp

used for decorative purposes, will transmit blue and green light. A ruby lamp (of natural glass) for photographic purposes is a commercial article, can easily be obtained and used with safety on the most sensitive plates, all statements to the contrary notwithstanding. I do considerable developing at my place of business, and have used one for years without fogging the most sensitive plates. I have recently used, and find it satisfactory in every respect, an artificially colored "Tri-light" lamp (a lamp from which the light can be increased or decreased at will.) This lamp has been colored with a special enamel, one coat of orange and two of ruby. If the surface of the lamp is thoroughly cleaned and dipped in the solution while warm, a perfectly smooth surface can be got that will not easily rub off. In fact, it can hardly be washed off and will outlast the life of the lamp.

If Mr. L. will try something of this sort, I believe he will dispense with the test tube and tumbler.

I did not inquire how many lamps 4 V. and .5 amp. would furnish current for. Any gratuitous information, however, will be thankfully received. As to the name I have assumed, I really do not know if I have any legitimate right to it. In consideration of the fact, however, that I did construct the afore-mentioned battery and have since successfully installed an electric floor bell without the aid of the local bell-hanger, who styles himself an electrical engineer, I hope that my brother amateur (photographer) will pardon my assumption in adopting so distinguished a title. I also hope that he will accept my communication in the spirit it is intended. Believing that he will do so, I will volunteer a bit of information gained from experience, viz.: Dry cells are absolutely N. G. for the purpose discussed, and don't swear by all the photo-supply catalogues testify to. AMATEUR ELECTRICIAN.

[By "natural glass" we presume our correspondent means "pot metal," and unless the ruby be "copper" which is unlikely, his assertion as to the safety as a light must be taken with a considerable quantity of salt, spectroscopic examination showing that it passes both green and blue. Safety lies in keeping the plate covered, especially as commercial plates are becoming more and more orthochromatic. Ed.]

ANSWERS TO CORRESPONDENTS.

Art Versus Technique.

ANDREW SAFE.—You are mistaken in supposing that all the illustrations that appear in our pages are there because of the merit *we* see in them. We are not egotistical enough to suppose that our opinions are better than those of other and perhaps better judges; and while we may think very much as you do regarding the "Portrait" to which you particularly refer, it was, by men who are generally regarded as competent, and who are unquestionably honest judges, at one of the greatest competitions of the year, awarded the first and very valuable prize. It, and most of the others to which you refer, found their places in our pages mainly because our readers have a right to see the kind of work that salon and some other judges delight to honor.

Although we do not as a rule, care to speak of our criticism in the "Portfolio" we may for once say that while in pictorial photography technique is of less importance than art, the would-be pictorialist should first be a good technician, and as probably a majority of those who avail themselves of the help the "Portfolio" is intended to give are short on technique, our efforts, in their case, are mainly directed to that.

Photographic Copyright.

R. H. RAMSDEN.—No, registration after the event will not entitle you to damages from either the engraver who made the block from one of your prints or the printer who got up the circulars. According to your own account the original of the photograph bargained with you for one copy for himself, was satisfied with it and paid you for it at your own price. It does not alter the case that you charged only fifty cents, expecting further orders, as no such hint of that was given, and he was under no obligation to tell you that the print was wanted for the purpose of making a block for the illustration of a booklet advertising a course of lectures. The print so bought and paid for was his property to do with what he liked, and although the negative belongs to you, the copyright belongs to the missionary and cannot be affected in any way by subsequent registration, neither can you register what is not your own.

The Marking of Lens Stops.

J. R. BARRON.—The figures on your

shutter are evidently the now obsolete U. S. numbers which, we are sorry to see, some makers still employ, as they are meaningless unless their relation to the focus of the lens has been learned. Your 4, 8, 16, 32 and 64 are respectively F-8, F-11, F-16, F-22 and F-32, generally called "focal fractions," and so calculated that each requires just twice the exposure of its immediate predecessor.

Time Development.

W. DONALDSON.—The developing factors are not necessarily fixed quantities, but may be increased or diminished according to the effect desired; shorter giving less and longer more contrast. Change of temperature *after the first appearance* will be equal to a shorter factor, but it is the same for all temperatures so long as they remain constant during the time occupied in the operation.

Focal Aperture of Lens.

ELMER BARRETT.—Your dealer is mistaken and evidently does not know as much as he should about some of the articles in which he deals. All lenses have practically the same rapidity working at the same relative aperture. Please notice, however, that that does not mean the same size of aperture or stop as you seem to suppose. For example, suppose we have two lenses, one of 8, the other of 16 inches focal length. A stop with an aperture, or opening, one inch in diameter would be in the former F-8, and in the latter F-16. The one is 1-8th, and the other only 1-16th of the focus of the lens, and the latter requires four times the exposure of the former; but a stop of 2 inches would, in the 16-inch lens, be F-8 and require only the same exposure as the one-inch in the 8-inch lens.

R. L. STARK.—As you will see from a note on another page, "reducer" in the last line on page 10 of our January number was a misprint for alkali. A careful study of the article beginning on page 55 of our February number will put you right.

The Dusting on Process.

S. MACREADY.—There is no *best* "dusting on" formula, almost every

operator modifying it to suit himself, and it is natural that it should be so, no two samples of the article most generally used, glucose, being alike, while the hygroscopic condition of localities and times is quite as varied. The latest formula that we have come across is gum arabic, 32 grains; glucose, 24 grains; potassium bichromate, 16 grains, dissolved in one ounce of water. Ordinary stove polish, finely powdered, and passed through the meshes of fine muslin answers perfectly, and we like a tuft of cotton for its application better than a brush.

The Lens Aperture Again.

JOHN H. SCOTT.—The stops of the older lenses, doubtless including the Dolland referred to, were not generally marked according to the then focal relation, but in successive numbers; sometimes beginning with the largest and sometimes with the smallest, each maker adopting his own way; and in some cases those beginning with the smaller so marked that each required just twice the exposure of its predecessor.

When marking according to focal relations became general some makers anxious to be perfectly accurate, adopted the method to be noticed further on, while others were content with simple measurement; that is, they made the aperture of each stop a measured fraction of the focal length of the lens, F-8 for an 8-inch lens one inch in diameter; F-16 exactly half an inch, and so on; and that is near enough for all practical purposes.

But the front lens of a combination more or less condenses the rays and stops so measured pass more than they indicate, and they who aim at being mathematically correct have recourse to a different method and one involving more intricate calculation.

To learn exactly the focal relation of the stops in your lenses proceed as follows: Focus carefully a distant object; then, removing the camera to a dark room, place say a sheet of cardboard with a pretty large pin hole in its center, in the position of the ground glass or focusing screen. If you now place a lighted candle or lamp close to the pin hole a circle of light will appear on the front lens, made more visible by breathing on it or placing in contact with it a disc of tissue paper, and the diameter of that circle is the focal fraction of the stop then in the lens.

CHARLES GOULD.—R. W. Adamson, R. T. Reitz, James Holloway and Ben Hur. See append to Dr. Grant's letter on another page.

Print Criticisms.

BIRT DAVIDSON.—No, only one print at a time and only one each month, but if you send five accompanied by a fee of one dollar you will receive a criticism per mail, and if you wish them returned stamps must be enclosed. If mounted they should be sent by express as mounts are apt to be broken in mail bags.

Damaged Lens.

T. H. RAMAGE.—The fault may have been caused by the fall although the lens does not appear to be damaged. Pressure on the mount may have strained the lens sufficiently to prevent the perfect definition previously given. Examination by polarized light would show such strain if present, but we have not the means here for such examination. You should send it to the maker who will find both the cause and the cure.

"Depth of Focus."

J. R. BENTLEY.—We do not care to be in any way connected with such bets but may say that you look at the question from different points of view, and that, strictly speaking, you are both wrong as, in the true sense of the term, there is no such thing as "depth of focus," and from either of your view points all lenses under the same conditions as regards length of focus and aperture give the same results.

The Action of Light.

W. H. BLACAR.—Theoretically a certain amount of light acting on a dry plate for one minute should give "identically" the same result as one tenth of that light acting ten minutes; but in practice, according to Sir W. de Abney, the weaker light does not do quite the theoretical amount of work. This may be accounted for by the fact that in any case before the light begins to form the latent image it has to overcome the inertia that precedes all action, whether motion or chemical change; and it is just possible that the weaker light may take longer than the proportional time to overcome that inertia. The difference however, is so slight as to be practically negligible.



Made through an Ideal Ray Filter No. 7.

Clayton W. Mogg.

"KICKAPOO CREEK."

THE
AMERICAN AMATEUR PHOTOGRAPHER.

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NO. 6.

ORTHOCHROMATISM.



"MAKING HIS MARK."

It is said that "all things come to those that wait," but for some we have to wait long. Over a decade and a half ago we began to preach the gospel of three great desiderata in the practice of photography, the backing of plates, lenses of sufficiently long focus, and the orthochromatizing of the sensitive film, and while in the adoption of all three we have seen considerable progress they are as yet neither sufficiently understood nor so generally employed as they should be.

Orthochromatism, that should have most readily caught on, has been perhaps the most backward, but thanks to the growing popularity of three-color work and its frequent

mention in connection therewith, it may at present be said to "be in the air." Briefly, as we have often said before, the difference between an ordinary plate and one that is orthochromatic is that while the former is sensitive only to the lower end of the spectrum, the blue and violet, the other is more or less so up to and in some cases, including even the red.

An object is visible and hence photographable only because of the light that it reflects. One that reflects all the three rays—red, green and blue-violet—equally is said to be white, while one that absorbs the red and green, reflecting only the blue or blue-violet, is said to be blue; the one lighter than any color, the other the darkest or least luminous of all colors, and yet, because they equally reflect the only part of the

spectrum to which the ordinary plate is sensitive, they are represented as equally luminous, the blue dresses and white aprons and caps of the nurses everywhere present in the Sanitarium while we write appearing in a photograph equally white.

That, of course, is an extreme case, as there are few colors in nature that are quite pure, few without sufficient blue to make some impression on the plate. Nor are the practical results quite so bad as the theory leads one to expect. Greens and reds, with their combinations of yellows and oranges, are not, where proper exposures are given, represented as altogether black because all surfaces reflect some white or undecomposed light, sufficient to impress them to a certain extent, but at best with values so false that the luminous yellow is little more than a half-dark, while the non-luminous blue is, as we already said, as luminous as the whitest white.

The orthochromatic or color sensitive plates, on the other hand, while not yet at their best, aim at recording more or less accurately all three rays or colors, and have been coming nearer and nearer to the ideal year by year; and yet it is safe to say that they are not employed by more than one or two per cent. of all the photographers in the country, and less by the professional than the amateur.

There are probably several reasons for this puzzling state of matters. On its first introduction orthochromatism was saddled with a patent, and the orthochromatizing had to be done by the photographer, so that few cared to tackle it; and when color sensitive plates were placed on the market their keeping qualities were so limited that they got a bad name which, in the minds of many, still sticks to them,

But with experience came knowledge, till to-day color sensitive plates under one or other of the various names by which they are known, are made by almost every plate-maker, and are almost all that can be desired, or that, in the hands of those who understand them, can be made to give photographs in perfectly true color luminosities. In all respects they are as easily managed, and keep as long both before and after exposure as an ordinary plate; and although the appreciative faculty of the photographer may by long use have become so degraded as not to recognize the falsity of the values of the ordinary plate or the correctness and beauty of those of the orthochromatic, he may rest assured that his customers and the general public will soon estimate both at their true value.

There is nothing that can be done on an ordinary plate that cannot be equally well done on one that is color sensitive, while on the latter much can be done that cannot be done at all on the former. The color sensitive

plate can now be got almost everywhere, and at or about the same price, and while it may be used with or without a color screen, the latter gives the photographer a power which to those who fully understand it, is simply invaluable.

The imperfection of the ordinary plate is admitted by all, and while the color sensitive one may not yet have reached perfection it is already sufficiently near it to make it a puzzle beyond comprehension why any one could continue to use the old while he could get the new.

In connection with this it may not be out of place to say that as the result of several years' experience, the Eastman Kodak Company have just placed on the market a roll film that is not only "non-cockling," but that is orthochromatic, two qualities that should largely increase the already wonderful popularity of their roll film. This, with the kodoid film, noticed on another page, and the color sensitive plates, by all the other American plate-makers, leaves no excuse for the employment of the ordinary or luminosity reversing plate.



No. 1610

"WHERE THE SUNSHINE GLANCES."

Arthur Levine

SPECIAL SUBJECT SERIES.—VI.

Printing.

BY DR. JOHN NICOL.

ALTHOUGH the negative is merely a means to an end and the print the finished product, printing has, unless by few of the more advanced pictorialists, been regarded as a purely mechanical operation and relegated to the least experienced of the staff, more frequently than not, to the apprentice. And for "straight" photography from a perfect negative, as well as most kinds of commercial and scientific prints it is more or less so; but when the pictorial is the aim those who know what they want and how to get it find in printing methods and their modifications the royal road to success.

It has been said that the most beautiful of all photographic productions is a positive, generally spoken of as a transparency, on glass, properly printed from a perfect negative, the test as to the perfection of the print being that, when superimposed in perfect register on the negative and examined for transmitted light, the whole surface is equally opaque.

Although there are many printing methods, each especially suited to some particular purpose and giving the best results from some particular variety of negative, they may be all included in four classes, or treated under four heads; and as each, properly treated, would occupy several times the space allotted to this I can do little more than indicate their nature and some of the properties of the material on which they are based. They are the printing out or "P. O. P." silver chloride papers. Developing or "gas-light" papers, depending on silver bromide; Iron papers, depending on ferric salts of iron; and papers in which the active agent is an alkaline bichromate.

The printing out method, although not the oldest, has been and probably still is the most popular and most generally employed; indeed, up to comparatively recent times it would have been safe to say that more prints were made by it than by all the others together; although nothing could better show its decadence than the fact that at most of the greater exhibitions during the last three or four years less than one per cent. of the exhibits have been on printing out paper; those depending on the salts of iron and bichromates having taken its place.

PRINTING OUT PAPER owes its virtue to the fact that silver chloride gives off part or all of its chlorine on exposure to light, but the result is considerably affected by the medium on which it is supported or in which it is embedded, and by which the chlorine is more or less ab-



No. 1603.

"CHILD STUDY."

H. F. Porter.



No. 1612.

"ON THE PENOBSCOT."

W. H. Blacar.

sorbed; whether plain paper simply "sized," albumen, gelatine, or collodion. Each has had its day, and while, in the hands of those who knew how best to work them, all gave beautiful results, that day for each in turn passed away to the extent already indicated, although some of them deserved a better fate, and are well worth resuscitating.

I have in mind especially a method much in vogue before the introduction of albumen, in which plain paper got an additional sizing with arrowroot, was "salted" with ammonium chloride, and floated on a solution of ammonia-nitrate of silver, which, with the strong negatives then generally made, gave prints that for beauty and all good qualities have not been surpassed by any method since devised. The paper printed rapidly to a violet black and readily toned to an engraving black that more than held its own beside the finest ink from grapevine charcoal, and quite equal to any of the modern methods for modern pictorial work, And as for permanence, that bugbear in connection with all silver methods of printing, I have several prints made in the early sixties that, with exception of a slight yellowing of the paper, are as brilliant as ever.

But, whatever be the ultimate fate of printing out paper as a whole, there is one variety that will always be in demand; that with a glossy

surface, of which solio may be taken as a type; and that not for the so-called pictorial work, but for half-tone and other reproductions, which includes almost all of what is generally understood as commercial work. It is cheap, prints rapidly and tones easily to just the desired color, and gives a depth and delicacy of detail unequaled by any other printing method.

Although not very clear as to dates, I have an impression that the first that was heard of a silver bromide developing paper was at a meeting of the Edinburgh (Scotland) Photographic Society, in the early seventies, when Swan, of carbon and other fames, showed samples of both paper and prints, pointed out what he considered its advantages, and ventured to prophesy for it a great future. But, like many other good things, it had come before its time, and not till at least 15 years later could it be said to be really on the market. It came first as "bromide paper," and being introduced by a firm that has shown its ability to make anything that it takes up go, it went; and for enlarging as well as all kinds of direct printing. The success of one firm brought others into the field, till it is to be found in all degrees of sensitiveness on paper of all desirable degrees of thickness, and under as many names as there are makers.



Negative by C. T. Thayer, Minneapolis.

PRESIDENT MCKINLEY IN VOLUNTEER PARADE.

Example of moving figures sharply rendered by movement of Camera and slow shutter. See letter of C. F. Potter on page 386.

DEVELOPING PAPER owes its sensitiveness to silver bromide, differing only in its degree of rapidity from that of the dry plate, and the chemistry of development is the same in both; only in the case of the paper precautions must be taken both as to the color of the deposited silver and the prevention of stain. With most varieties of the paper colors from engraving black to Bartolozzi red may be obtained by varying the exposure and modifying the developer to suit it; a normal exposure and normal developer—normal here meaning the formula for developer recommended by the maker, and an exposure to suit it, giving the black, and the longer after that, and the weaker the developer the warmer the color; up to, say, fifty times, and a sufficiently weak solution for the red.

But while gas-light papers readily give variety in color, black is almost universally the aim, although it is not so often obtained in all its purity as it might be. Where the prescribed formula is employed failure to secure the desired rich velvety black may arise from one or other or all of three causes, incorrect exposure, wrong intensity of light, and too much or too little bromide. There is a *correct* exposure, and it can be found only by trial and error; as, while less or more, within limits, will give *good* blacks, the *best* only comes from that which is correct.

By wrong intensity I mean by placing the printing frame too near or too far from the source of light; and the difference is greater than without actual trial one would suppose. The denser the negative the nearer the light; and *vice versa*; but just how near or how far can only be learned by experiment.

THE IRON PRINTING METHODS include the little valued but really beautiful "Blue print," more suitable for some purposes than any other; kallitype; platinum, etc., all being based on the fact that the ferric salts of iron are, by exposure to light, changed into ferrous salts in which state they decompose or reduce to the metallic state certain salts of silver and platinum, in the kallitype and platinum processes; or enter readily into combination with certain other bodies, as with cyanogen to form "Turnbull's blue" in blue printing.

Silver bromide and iron papers are generally developed by floating or immersion; which, when nothing beyond "straight photography" or the complete complement of the negative is desired, is the best as well as the most convenient way; but he who knows the pictorial and even art possibilities of suppression and accentuation will find in development by the brush an ideal method.

For this purpose the action of the developer must be retarded by glycerine or a syrup of sugar; and for convenience there should be three brushes, one a small camel-hair ready at hand in a cup containing a 10-



"IN THE STREETS OF CAIRO."
(Coney Island.)

Miss Annie S. Dean.

per-cent. solution of potassium bromide; one larger and flat, the size depending on the size of the print, in a cup containing developer to which a little of the glycerine or syrup has been added; and one, same size, in a cup of pure developer.

THE ALKALINE BICHROMATE method includes carbon, ozotype, gum-bichromate, the powder or "dusting on" process, etc., and with exception of an engraver here and there who employs asphalt, the whole of what is included under "process work," photogravure, collotype, photolithography, swelled gelatine, half tone, etc. All of these are based on the fact, curiously enough discovered in 1839, the year of the publication of the methods of Talbot and Daguerre, that soluble organic matter, such as gelatine, gum arabic, etc., in the presence of an alkaline bichromate is made insoluble by the action of light.

Ordinary carbon printing may be taken as typical of the whole, as the action in all is practically the same. "Carbon tissue," as sent out by the makers, is suitable paper coated with gelatine containing a trace of sugar, glycerine, or other matter that will prevent its getting too hard or brittle; and charged with coloring matter, originally China ink, hence the name. The tissue is rendered sensitive by immersion in a solution of potassium or ammonium bichromate and dried. When exposed to light under a negative such parts as are in the latter opaque—the high lights, are not affected because no light reaches them, and by development the whole unaltered gelatine is removed. Lesser lights allow sufficient to pass to just touch the surface; half-lights go deeper, half-darks deeper still, till we come to the deepest shadow which reaches down almost to the paper, rendering almost all the gelatine insoluble.

As the action begins at the surface, going deeper and deeper in proportion to the thinner and thinner parts of the negative, the reason for developing or dissolving the unaltered gelation from the back or side opposite to that which was exposed becomes evident as does also the fact that development is purely mechanical.

It will thus be seen that the photographic printer has many methods from which to choose; but while from all of them excellent prints may be made, some are, for certain purposes, better suited than others, and a good printer will always have reasons for his choice. On the whole, however, and for all ordinary work, including both the straight and the pictorial, carbon seems to me to possess advantages over all others. It is to a large extent mechanical and therefore not subject to the vagaries of chemical action; and at the same time the simplest of all printing methods. The tissue is supplied in all the colors of the rainbow, giving images as permanent as the pigments employed; and that, unsensitized,

will keep indefinitely, while the sensitizing operation is almost as simple as is the moistening of a postage stamp.

Just why carbon printing has been so much neglected by the amateur as well as the professional is one of the puzzles of photography. In all that goes to the making of a beautiful print it is second to no other method; while in delicate detail, steepness of gradation, and color possibility it is superior to all. To be ready for the printing frame it needs only immersion for a few minutes in the bichromate solution and drying, and as it is insensitive while wet the former may be done in ordinary diffused light, and the latter also if squeegeed on to a ferrotype plate and the back covered with opaque paper.

Nor should its economy be forgotten. The cost of the tissue is not or need not be greater than the paper for some other methods; nothing but hot water is needed for development; and, provided the negatives are marked with "actinic numbers" in the way indicated in one of the back numbers of this magazine, and which shall be again described in an early issue, *there need be no waste.*



Floyd Vail.

"REPOSE"

THE LATE J. WELLS CHAMPNEY.



J. WELLS CHAMPNEY.
From a Pastel Drawing by himself.

IT is with feelings of the greatest sorrow that we record the death of J. Wells Champney on Friday, May 1st last, occurring so suddenly in the elevator shaft of the new quarters of the Camera Club, No. 5 West 31st Street. The circumstances as near as can be ascertained, were that he was taking some exposed plates to the Camera Club rooms for development in the new dark room there, and as he reached the elevator at the ground floor, he found the men engaged in carrying on top of the elevator a very large table to be delivered at an upper floor. He was cautioned to wait for the next trip till the table had been taken up, but, as he was in somewhat of a hurry, he insisted on going aboard. The elevator carried two men besides Mr. Champney and the table. At the fourth floor, it appears, the leg of the table (the latter being carried up endwise) projected out too far horizontally at one side

so that the counterbalancing elevator weight in its descent struck the leg and made a crashing sound, causing the elevator to be jammed between the fourth and fifth floors, the floor of the fourth floor being located about four feet below the elevator floor.

It appears the other men in the elevator became panic stricken, fearing, it is supposed, the elevator rope would break and they would fall. At any rate they opened the folding gate of the elevator and, it is said, by continuous kicking succeeded in opening the hinged door from the elevator shaft to the fourth floor. They then ventured, in a crouched position, to jump from the floor of the elevator to the fourth floor, about four feet below, and saved themselves. Mr. Champney, instead of jumping in the same way, it is thought, slid himself out on his stomach expecting his feet would strike the sill of the fourth floor. But the distance was greater than he calculated, and his feet curved under the floor of the elevator and missed the sill. He was unable to hold himself

by his hands to the floor and had to drop, and was found unconscious at the bottom of the elevator shaft and soon died.

The circumstances are peculiarly distressing and indicate that there was a lack of presence of mind somewhere. We enjoyed the personal acquaintance of Mr. Champney for many years and held him in high esteem; he was a man of charming presence, an artist in the strict sense of the word, and devoted to his particular forte, pastel portraiture. He was most helpful in giving friendly criticism of prints and lantern slides and during his long membership in the Society of Amateur Photographers of New York, and later in the Camera Club, he frequently gave lecturettes to a few members on the artistic merits or demerits of pictures presented on the screen; his remarks were always listened to with interest and profit.

The portrait we present is a copy from a pastel portrait made by himself not very long ago and which is an excellent likeness. Through the kindness of his widow, Mrs. Elizabeth W. Champney, we have been permitted to secure this photograph.

Mr. Champney, one of the best known of contemporary American artists, was born in Boston on July 16, 1843. He began his art education with a wood engraver in Boston and later he went abroad and studied under Edouard Frere in Paris and the Antwerp Academy from 1868 to 1869. In 1882 he was made an associate member of the National Academy. He married Elizabeth Williams in 1875.

Mr. Champney worked much in genre and since the early eighties he had made many pastel portraits of notable persons. He exhibited oil paintings at the Philadelphia Centennial in 1876, and pastels at the Chicago World's Fair in 1893, and his work has been seen frequently at the annual exhibitions. He was a member of the following clubs and societies: National Academy of Design, Century, American Fine Arts Society, The National Arts Club, Metropolitan Museum of Fine Arts, Players, Camera, Twilight and American Water Color.

He leaves one son and a married daughter. The following resolutions passed by the Camera Club at its May meeting fully expresses the high esteem held for him by fellow amateur photographers:

WHEREAS, The Camera Club has suffered an irreparable loss by the untimely death of its beloved member, J. Wells Champney, be it hereby

RESOLVED, That we, the members of The Camera Club, unite in conveying to his wife and family an expression of our great sorrow at this event.

We also desire to express the very high esteem and affection in which he was held by every member of the Club, and to commemorate the great benefits derived from his always considerate counsel, his gracious criticisms, his unfailing kindness, and his genuine love of beauty as art. These, alas, will no longer be with us, but his memory and his teachings will live in the minds of us all.

Readers of the AMERICAN AMATEUR PHOTOGRAPHER who would like to interest themselves in procuring subscribers or otherwise extending the circulation of the magazine will be amply rewarded. Particulars by mail.



Third Award in Portrait Class.

Myers R. Jones.

BROOKLYN ACADEMY OF PHOTOGRAPHY EXHIBITION.

OUR LANTERN SLIDE COMPETITION.

Several entries have been received for our 1903 Lantern Slide Competition and a few workers write that they are preparing sets. Knowing that there are thousands of lantern slide makers among our readers, we expected more active interest in this competition. When it is understood that a set for free circulation among our readers is the ultimate end of this contest we believe that many more will participate in making it a success. Such a collection of slides makes a delightful evening's entertainment and is always welcomed at the club. Unless more entries are made before the end of this month the judging will be postponed until the fall months; meanwhile we hope our readers will send in their sets. Full particulars in the January and April numbers.

METOQUINONE—A NEW DEVELOPER.

By F. MOLENO.

MESSRS. LUMIERE & SEYEWETZ, to whose researches in photographic chemistry we owe so much, has given the name of metoquinone to a new reducing substance which bids fair to become a universal developer if, as they claim, it possesses all the good qualities with none of the disadvantages of the older developers either singly or in combination.

In reality it is not a new chemical to be added to the already long list of developing agents, but a chemical combination of the well-known developers, hydroquinone and metol. These two agents are very frequently used in combination to form a developer that is more universal in its application than either when used alone. Being dissimilar in their reaction, it occurred to Messrs. Lumiere & Seyewetz that the basic properties of each could be successfully combined, and they claim to have succeeded in a manner so simple that it may be carried out by anyone possessing a knowledge of the chemicals used.

The composite chemical is produced by mixing in suitable proportions solutions of metol and hydroquinone and introducing into this a saturated solution of sulphite of soda when the new product is precipitated in small white crystals differing from the separate components in its chemical and physical properties. A saturated solution of metol and hydroquinone in the proportions of two molecules of metol to one of hydroquinone is suggested by way of experiment; but no doubt varying the proportions will modify the action of the resulting compound.

The metoquinone crystals are soluble in water, in acetone, also in alcohol and ether to a slight extent. Perhaps the most important quality it possesses over the two parent reducers is that it will develop without an alkali, as in the case of amidol, only that it is slower in its action. This is claimed to be an advantage, as the operator is given plenty of time to regulate the development according to the exposure, and its advantage is apparent where a batch of unknown exposures have to be developed.

Used in this way, which we will term the normal bath, the proportions are:

Water.....	1,000 c.c.
Metoquinone.....	9 grammes.
Anhydrous sodium sulphite.....	60 grammes.

A few drops of a 10 per cent. solution of potassium bromide suffices in cases of over-exposure and in cases of extreme over-exposure the proportions of bromide may be advantageously increased without changing the character of the plate or fogging the image.

Of still greater value is its action in the treatment of under-exposure. As is now well known under-exposed plates may be developed into passable negatives by the application of a slow or much diluted developer. Amidol is a good developer for this purpose when a weak solution is used, as the absence of alkali allows the plate to remain a long time in the developer without fear of stain or frilling of the film. Glycin is also popular for stand development, as it is comparatively free from stain. It is

claimed, however, that better results from under-exposures can be obtained with metoquinone by the addition to the normal bath of an alkaline carbonate, caustic alkali, acetone or formosulphite. Either one of these, added in small quantities to the normal bath, increases the developing power, so that excessively under-exposed plates may be developed without fog.

For the alkaline bath the following is suggested:

Water.....	1,000 c. c.
Metoquinone.....	9 gr.
Sodium carbonate.....	10 gr.
Anhydrous sodium sulphite.....	60 gr.

The effect of the addition of the alkali to the normal bath is that in the case of normal exposures the rapidity of development is increased $2\frac{1}{2}$ times, also that the image is less transparent, a more vigorous negative being obtained.

The comparatively new chemical, formosulphite, gives the same accelerating results as the alkaline carbonate when it is substituted for the sodium sulphite in the normal bath in the same proportion. This is strongly recommended for developing papers, as it yields very pure blacks without affecting the purity of the whites, without the addition of bromide.

The normal bath may also be used for papers with good results, but the blacks are less intense. The alkaline bath given above will also give the vigorous results obtained on developing papers with the formosulphite, but it is necessary to add 10 c. c. of a 10 per cent. solution of potassium bromide to preserve the purity of the whites.

In all solutions metoquinone keeps indefinitely without alteration or perceptible coloration in corked bottles and even in uncorked vessels it colors slowly and may be used until thoroughly exhausted. This slow tendency to oxidation is the reason that it does not stain the fingers and is so well adapted for the developing papers. These advantages, with its wide range of action, its susceptibility to bromide and the acceleration produced by the addition of alkali, should make of metoquinone a universal and an ideal developer.

In practice, three solutions should be prepared, which will keep, each in its respective bottle, until exhausted. One is the normal solution given above, the second is the same except that equal weight of formosulphite has been substituted for the sodium sulphite. The third is the normal solution to which potassium bromide has been added. For the second, where formosulphite is not obtainable, the formula with the sodium carbonate may be substituted. The developing of a batch of unknown exposures may then be accomplished with the utmost certainty. The plate is first inserted in the normal bath, and according to its behavior is either completed in this or transferred to the rapid or slow bath. By using three trays and beginning with the normal solution, which is sufficiently slow in its action to enable the operator to have absolute control of the results, and ringing the changes on the fast or slow developer, as the case may require, the widest range of exposures may be successfully and simultaneously developed.

Messrs. Lumiere & Seyewetz affirm that the addition of caustic lithia,

in the proportion of 0.5 per cent. to the normal bath gives it five times the rapidity and may be used in the case of extreme under-exposure. Their word is not to be doubted, but where there has been no light action no reducing agent will develop an image without fog, and metoquinone even if not endowed with this miraculous power, possesses enough advantages to place the photographic world under a debt of gratitude to its discoverers.

SEASONABLE SUGGESTIONS.

BY GEORGE DICKSON.

HAPPY is the man who can keep in touch with photography all the year round; so at least think those who, like myself, can give it their undivided attention only during the all too short holiday time. But the shorter the time the greater the need to make the most of it; and to help the less experienced to do that is the object of the following suggestions.

The first essential is to have an object in view; make up your mind what you mean to photograph. There is much from which to choose, although the choice may be influenced by circumstances. It may depend on the material available in the locality where perforce the holiday is to be spent; or where the locality is not already a foregone conclusion, it may be selected to suit the object, but in any case you should specialize and stick to the specialty through thick and thin.

Nor is the specialty itself sufficient if you are to do the very least work and have the greatest possible pleasure in doing it. There must be an object beyond it; something more than merely to add to your collection, or to take a favorable place in the periodical exhibitions of the work of the members of your society or club. And there are many ways in which such specialized work, if it is good, may be turned to account, each giving the added interest said to be given to games by playing for stakes, and that makes you "put your best foot foremost."

What is the matter, for instance, with making pictures to illustrate articles for the photographic or other magazines? The editors are always on the outlook for good matter of that kind and will gladly, for a few well-written and well-illustrated articles, not only help you to go scot-free from the cost of your holiday outing but to go home with more in your pocket than when you left it.

Have you "the gift of the gab?" as, if so, you have a wide field before you. While it is true that lantern-lecturing of a kind has largely lost its popularity, there is and always will be an open door and a full house for the other kind, as witness the success of the retired Stoddard and the still popular Burton-Holmes, and the one neither did nor is the other doing anything that cannot be done and perhaps even bettered by dozens who are unconscious of possessing the necessary ability simply because they have never tried it.

Subjects for such illustrated lectures are almost inexhaustible and sets

of negatives for 50 slides, a number that should rarely be exceeded, need occupy only a few days. How eagerly, for example, would the farmers' granges throughout the country welcome a lecture on the fruit-bearing trees and plants on which they so much depend, and the enemies against which they contend. The latter in place on the former and in the various stages through which they pass; such as, say, the Colorado beetle" on the potato, and the "borer" on the apple, accompanied, of course, by the latest information as to the best method of fighting the various pests.

The "Arts and Crafts," too, may be drawn upon. One of the most interesting series of lectures—three in number—I ever took part in was "The story of a cotton gown from picking to paper." By 150 slides the audience were led through the whole series of transformations, beginning with the cotton picking, on through ginning, baling, spinning, weaving and printing. By the beginning of the third lecture the gown had reached the rag-pile, from which it was followed through the process of paper making; the last slide being a few complimentary words to the audience supposed to have been written on the paper so made.

Another equally interesting "lantern lecture" was "Matches and Matchmaking," tracing the process from the lumber yard, large enough apparently to supply the builders of a great city, through machine after machine, each acting almost automatically, splitting, paraffining, dipping, drying and boxing; and finally leaving the factory in carloads; although I learned afterwards that some of the fairer portion of the audience were a little disappointed, having come under the impression that match-making of a different kind was to be the theme. Nor is there any reason why even that kind of match-making should not be taken up. Its phases are varied enough, and, treated properly and especially humorously, it could not fail to be attractive.

But your ambition may soar higher than any of these; you may even aim at qualifying for admission to the Photo-Secession, and "what for no," provided you have been blessed with the artistic temperament; and it will do you good in any case to try. No matter how much you already know there will always be room for more, and you can have no better preparation than a careful study of Burnett or Robinson, or both.

But enough has been said by way of suggestion. He that has that within him that will enable him to be a thoroughly successful specialist will have little difficulty in finding a suitable subject, and I may conclude with a few words as to the most desirable outfit.

A good photographer will do good work with almost any kind of camera and lens, or, at a pinch, without a lens; but he will do better, and do it with greater satisfaction and comfort when both are of the most suitable kind for his particular branch.

My ideal for all the phases that I have suggested and for many others, is a 4x5 camera, with one of the modern flat-field, or anastigmat lenses of not less than seven-inch focus, such as the Plastigmat or the Cooke, the former of which I have employed for the last eight months with perfect satisfaction; and a rigid tripod. For the highest class of work in the specialties suggested perfect technique is a *sine qua non*, and that,

in 99 cases in the hundred, cannot be obtained without the use of a tripod or other equally suitable support for the camera.

Perfect technique includes true values in color luminosities, implying the use of orthochromatic plates or films, and at least the occasional employment of a color screen. It includes also every degree of gradation that is in the subject, from the faintest shadow detail up to the highest of high light, if there be such, and at the same time nothing but that highest should be really opaque, a condition utterly impossible without a full exposure; and if, in addition to those, there is definition as perfect as the lens will give, you will have negatives fit for enlarging to any desirable size. I may add that while, for enlarging, or for illustrating magazine articles, the image may profitably be allowed to occupy the whole of the 4x5 plate, on negatives intended for lantern slides it should be confined to lantern size, and so available for contact printing when that is desirable.

A NEW METHOD OF MOUNTING PRINTS DRY.

BY BERNARD C. ROLOFF.

NOT one of the least causes of faded and spotted prints is that of careless pasting. It is well known that many of the commercial pastes have a decidedly deteriorating effect on prints, especially on those which have been mounted for some time. In such cases the cause of the spots and fading which follows is charged to insufficient washing or fixing, or both. This supposition is often true, as many amateurs are very delinquent in this regard, but it is a fact that very often the fault lies in the pasting method alone.

Taking it all in all, the common form of pasting, as followed by most amateurs, is, at its best, a messy affair and a method which does away with this trouble for one thing, and is very easily carried out, besides being such as to prevent fading from the cause of impurity for another, should be hailed with delight by the thousands of amateur photographers who have been bothered by this problem. Another advantage of the following idea is its cheapness and the ease with which the material is made in small or large quantities.

To make a small quantity of the liquid it is necessary to place an ounce, say, of white shellac in a small wide-mouthed bottle and to pour over it several ounces of alcohol. The alcohol will of itself dissolve the shellac, but it is advisable to stand the bottle in a pan of water, which should be slowly heated until the shellac is all dissolved, as it would take twenty-four hours to dissolve cold. Should the solution be too thick to flow easily off a brush, slightly more alcohol should be added until it is possible to smear the backs of prints without the danger of tackiness. The shellac dissolved, the bottle should be labeled and tightly corked, as the alcohol will evaporate very quickly and the solution become too thick.

When it is desired to mount a number of prints, a one or two inch bristle paste brush should be provided and the solution smeared thinly over the back of each print, which is then immediately laid aside to dry. Yes, they are *dried before* mounting, and not, as some of my readers might suppose, immediately placed onto the mount. After the whole batch has been properly covered with the paste, and the first print is dry, the mounts should be gathered in a heap and the first print held firmly in place on its mount. A piece of clean cloth should cover the print and mount, and it is only necessary to heat a flat-iron to a degree which can just be borne by the bare hand, running it over the print several times back and forth, and the pasting is complete. The rest of the dried prints can now be pasted in the same way and all finished in a surprisingly short length of time.

The warm iron has the effect of melting the shellac, which then adheres to the mount, and the print will be found perfectly pasted without wrinkles, buckling, paste on the face, or any of the numerous defects of a print mounted in the old way.

It will be found to be exceedingly easy to mount several dozen prints in the time it usually takes to mount one dozen, the pasting being entirely uniform and the print perfectly flat.

At the present time more attention is being given to artistic mounting than ever before, and the craze is for thin, suitably shaded mounting papers of a large size, the prints often being bordered by narrow margins of other colors, and as these are best mounted one upon the other sometimes at the corners only, it is well to call attention to the fact that the above style of pasting is just as applicable to the new method of mounting, it only being necessary to touch each corner and set them aside to dry, as first described, the final treatment being the same. Anyone taking up pasting in this manner will be agreeably surprised with the ease, neatness and dispatch with which a large number of prints may be handled.

WORDS FROM THE WATCH-TOWER.

BY WATCHMAN.

JOHN BARTLETT, in a paper before the Franklin Institute, revives the old, old notion of a developable image being formed by the briefest possible exposure to light, needing only a reducer sufficiently active to bring it out. The only reducer so far that will, by its affinity for bromine, reduce the silver sub-bromide, Ag_2Br , to metallic silver and bromine, Ag_2Br , is nascent hydrogen liberated from water by the affinity of pyrogallol, or other reducers, or so-called developers for oxygen; and notwithstanding the claims that have been made in favor of some of those over others, the energy or activity of that nascent hydrogen seems to be very much the same from whatever oxygen absorber.

But be that as it may there is a more effective objection to the notion which Mr. Bartlett has overlooked, but which those who originally held

it were brought to see. It does not recognize inertia. Chemical action may be considered "a mode of motion," and before matter at rest can be changed to matter in motion there is an inertia to be overcome. Development includes two chemical processes, the decomposition of water and the reduction of silver sub-bromide, plus the inertia incident to each, and however short the time, it must be more than sufficient to render the notion nugatory.

* * *

That photography *can* be made to lie has long been known, but few would have supposed that a "Church paper" could so misguide it. The unexpected, however, sometimes happens, as will be seen from the following, which I clip from *The Photographic News*:

"The current issue of a Church paper, we are told, contains a portrait of the Bishop-designate of Auckland in his episcopal robes. As the Bishop only left England at the end of March, and is not to be consecrated until he arrives in his diocese, the portrait would convey to anyone who thinks about it that he had dressed himself up in his robes before he had any right to assume them, and gone in this get-up to have his photograph taken. As, in point of fact, he had done nothing of the kind, this suggestion rather annoyed the Bishop-designate, and he went round to the editor to protest and ask for an explanation. He then learned that the enterprising editor, in order to produce the picture, had taken the Bishop-designate's head from a photograph and put it on to another Bishop's body."

* * *

The contemplation of the troubles of others sometimes lightens the burden of those we have to bear. Those who think they have somewhat against their water company may console themselves with the thought of what the following, the latest advice from Capetown, implies: "The municipal authorities have issued a notice that no water may be used for photographic or horticultural purposes till a rainfall occurs." Just think of having to say, "You may sit now, but you cannot get the prints till after the rain."

* * *

The latest fad is phrenological delineations from photographs, and it is bringing grist to the photographic mill. Two positions are required, front face and profile, and the head from chin to crown should not be less than two inches. On the back of the prints the following measurements should be noted: From ear to ear, and from the lower forehead in a line with the eyes to the back where the head ends and the neck begins; both across the crown and round the head in a line a little above the eyes, also the height, weight, and color of the eyes and hair. The prints so marked are sent to the phrenologist, accompanied, of course, by the necessary fee, and in return you will get—well, that depends.

NOTES.

A London Optician has adopted a method that, although our climate is not so variable as that of England, might be worth the attention of some of our stock dealers.

A frame was prominently placed in his window bearing the following inscription: "Exposure to-day for street snapshots on kodak films or plates of equal rapidity." Then followed three openings marked respectively F-8, F-11 and F-16, and under these F values were given the required exposures.

Try it. It will cost little, and may be worth much—to the enterprising dealer.

Precipitating Gold.—From time immemorial those who were wise enough to recover the gold from "spent" toning solutions employed iron sulphate to throw it down, and it answered well enough, although the precipitated gold was liable to be contaminated with iron. Formaline, according to Nicolai Awerkieff, answers the purpose very much better, throwing down the gold in a crystalline state and perfectly pure, even in the presence of salts of copper, antimony, mercury, lead, zinc, etc.

CONTRIBUTION BOX.

WARM COLORS ON DEVELOPING PAPER.

It is not generally known as it should be that warm colors of almost any shade from sepia to bright red may, by suitable exposure and development, be secured on almost any of the developing or "gaslight" papers. The following is an excellent developer that will keep for several weeks, and will give all desired shades without alteration or modification.

Edinol.....	45 grains
Acetone sulphite.....	35 "
Sodium carbonate.....	35 "
Water.....	10 ounces

The normal exposure, that is, the exposure required for the usual black color, for any particular negative and brand of paper, having been ascertained, exposures of from ten to fifty times that will give shades all the way from cold copper to bright red.

HENRY WILLIAMS.

PRINTING PLATINUM UNDER BLUE GLASS.

Having noticed for a considerable time that my platinum prints were always better on bright days when the light was free from yellow, as when it comes from a deep blue sky, I thought of trying to print under blue glass, and the improvement was very decided.

The glass I find best is a medium blue, flashed, of such a depth that adds about twenty per cent. to the time of printing, but it is well, very well worth it. I have made many experiments and no one to whom I have shown many pairs of prints, one under ordinary light, the other under the blue, failed to at once say which was the better, or to see that the difference was considerable.

ARTHUR BRONSON.

CARBON TRANSPERENCIES.

As there may be some of my fellow readers of the AMERICAN AMATEUR PHOTOGRAPHER who consider carbon printing, as I did up to a few

weeks ago, as a method possible only to the experienced, I wish to assure them that they never made a greater mistake.

For the last three years I have carried only a 4x5 camera and kept the subject intended to be included in the enlargement well within that size, generally about 4 1/4 x 3 1/4, and made the preliminary positive by contact on the slowest plate I could get, generally a Carbutt "B." Up to a month ago I was fairly well pleased with the results, both positive and enlargement, although quite aware that there was room for improvement; and I have learned how to bring it about.

Happening to meet a friend who had been working on the same lines, the method and formulæ recommended by Mr. Burn-Murdoch in "Ours" a year or two ago, but whose work was considerably better than mine, we compared notes and found the only difference lay in his making his positives on special transparency carbon tissue, while I, as already said, employed a gelatino-bromide plate, and he assured me that I would find it "child's-play."

And so I did. His instructions were as follows (and I succeeded at the first trial): The only thing needing care is the exposure, and having marked my negatives according to what he calls their "actinic value," by a method that, if you are willing, I shall describe in a future note, I can hit that every time.

The tissue, cut to size, is brushed with a velvet pad to free it from dust, and sensitized by immersion in a three per cent. solution of potassium bichromate made alkaline by a few drops of ammonia. As soon as limp it is blotted off and dried; and if sensitized in the evening and hung up in the dark room it will be dry by morning. Printing is done in the ordinary way, but care must be taken that the springs of the frame are strong enough to bring tissue and negative into perfect contact. After printing, the tissue is immersed in water slightly warmish for just as long as it begins to uncurl after curling, at which stage a perfectly clean plate of glass is brought into contact with it under the water, and squeegeed, taking care that no air bubbles are included. Glass and tissue are then kept between blotters under a weight for 15 minutes and then transferred to a dish of water at a temperature of about 120 degrees F. If all has gone well, the softened and colored gelatine will in a few minutes begin to ooze out at the edges, and the supporting paper may be taken by one corner and gently pulled off. By gently rocking the dish the soluble gelatinous sludge will wash off and the image take form, and after one or two changes of the warm water the transparency will be complete, a perfect beauty, and in delicacy of detail far superior to anything that can be made on an ordinary plate.

L. BRYSON, JR.

A good idea, which might be adopted with advantage by other photo supply dealers throughout the country, emanates from one of the Buffalo stock houses. In the store of Ackerman & King on Main St., there is a sign over the counter which reads that all purchasers of chemicals will be supplied freely with distilled water to make up their solutions. Their store is cooled by electric fans and otherwise very attractive.

KODOID PLATES.

A SUBSTITUTE for glass as a support for the sensitive film has been the dream of photographers for years and many are the attempts that have been made to find it. Rollable film has reached a degree of perfection beyond which its makers can hardly hope to go; but while it is pre-eminently suitable for many phases of work, there are others for which plates or sheets cut to size will always be in demand, and so the search still goes on.

The latest candidate for favor is the "Kodoid Plate" introduced by the Eastman Kodak Company, a sample of which we received some time ago, and although we have had time for only a superficial examination and trial, we have seen enough to warrant us in saying that they come nearer to "filling the bill" than anything that we previously had an opportunity of placing in the camera.

The support is celluloid, only a little thicker than the well-known roll film, but each sheet is mounted on cardboard, the sheet and board kept together by a thin metallic frame, making a "plate" sufficiently rigid to be used in the ordinary plate holder or carrier as an ordinary plate. The troublesome curling of the ordinary thin films both during development and drying is in the Kodoid prevented by a coat of gelatine on the back; the film is transparent, so that it can be printed from either side; and, perhaps best of all, the emulsion is orthochromatic, sensitive to the green and yellow, and to a certain extent also to the red; the general sensitiveness or speed being about the f-50 of Wynne.

Before development the frame and board are removed, the former opened by the point of a knife or by pulling at one end by the finger and thumb, and as the gelatined back would be apt to adhere to the bottom of the tray if placed in it while empty, and the developer poured on in the ordinary way, the film should either be soaked in water or slipped into the developer already in the tray. Once moistened, development is carried on exactly in the same way and as easily in every respect as a glass plate, although, being more or less sensitive to the greens and reds, it should be kept covered as much as possible from even the *safest* light.

Although belonging to the most rapid variety of plates the Kodoid admits of very considerable latitude, and the grain is very fine—fine enough to upset the old notion that sensitiveness and coarseness of grain went hand in hand, and as a consequence the gradation is both gradual and long; eminently suitable for negatives for enlarging or for lantern slides.

The Eastman Kodak Company recommend development with pyrosoda or metol-hydro, and both answer admirably, but we find our favorites, ortol and edinol, equally as good, and for some purposes better. We confess to a weakness for a clean, clear, crisp—what in the olden time was termed "juicy" negative, as, whatever may be said to the contrary, they *do* give the best prints; and the Kodoid, properly managed, readily give such.

It is too early yet to speak of the keeping qualities of the orthochromatic and metal bound Kodoid *plate*, and we do not like to prophesy unless we know; but judging from the other kodak films, and all that our limited time has permitted us to do with it, we believe that in it the

Kodak Company have come very near to the ideal and long-looked for substitute for glass as a support for the sensitive film.

It is, even with the cardboard and metallic frame, considerably lighter than glass; unbreakable, and with no tendency to curl during development or drying; and when thoroughly dry a hundred negative films are easier stored than a dozen on glass; and it may be printed from either side, a very great advantage indeed for some purposes. But in drying care must be taken that the back as well as the film proper does not come in contact with anything. Pinning on the front of a shelf or hanging by a clip, however, is both easy and effective.

EXHIBITION OF THE ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN.

THE forty-eighth annual exhibition of the Royal Photographic Society will be held at the New Galleries, Regent street, London, from Thursday, September 24th to Saturday, October 31st, 1903, at which the exhibits will be divided into the following classes:

- I.—A loan collection of Pictorial Photographs illustrating the progress and the present position of Photography as an Art.
- II.—A loan collection of Scientific and Technical Photographs illustrating the progress and the present position of Photography as a Science.
- III.—Pictorial Photographs selected in accordance with the established regulations that follow.
- IV.—General Professional Work.
- V.—Photographic Apparatus and Materials.

Although lantern slides and stereoscopic transparencies are not mentioned here we presume they are included in Class III, as it is said that they will be suitably displayed, and that the showing of the slides at the evening exhibitions will not debar them from future competition.

Foreign and Colonial Exhibitors may send photographs unframed. They must, however, be mounted. The Society will provide frames, without charge, for accepted photographs.

Medals will, as usual, be placed at the disposal of the judges, and the selecting committee will make no distinction between members and non-members, or between amateurs and professionals.

For further information and entry forms application should be made to the secretary, Mr. A. W. W. Bartlett, 66 Russell square, London (England), W. C.

GLASS POSITIVES OR "AMBROTYPES."

FROM time to time we have been asked for a method of making the old positives on glass on the modern gelatino-bromide plate; and although the following, which appears in the shape of a letter to the editor of *The British Journal of Photography*, by J. T. Hackett, contains nothing new and cannot compare with the wet collodion method, we reproduce it in the hope that it will interest some of our readers.

We may say, however, that it does not appear to be known by everyone that the difference between negatives and positives is only in degree, and in the way that they are looked at. Unless where development has been carried too far the ordinary negative is negative only when examined by transmitted light, when looked through; and positive when examined by reflected light, when looked at; and that what is called a positive in the following letter is simply an under-exposed and under-developed negative, bleached by mercuric chloride in the usual way.

For convenience of reference, I have arranged the different operations, etc., under separate headings, viz.:

Plates.—Any speed or make of gelatino-bromide dry plate are suitable, provided that they work perfectly free from stain of all kinds and fog. I like plates that are rather thinly coated, and those that develop and fix quickly are to be preferred. The Ilford ordinary, or plates of similar speed, are usually quite fast enough for the above purpose, but those of greater speed can be used if necessary or desired.

Exposure.—The exposure need not be more than about half to one-third as much as that required for a negative of the same subject, under similar conditions, but the exposure must not exceed that necessary for a negative.

Developers and Development.—The development of the plate is the most critical operation that has to be undertaken. I have found that almost any developer is suitable, that does not stain the film, produce fog, or give too much density. For this reason the developer must not be more than from one-third to one-fourth as strong (or even weaker, when some developing agents are employed) as that required for negative work. But as the following formula works very well in my hands and does not stain or fog the film, I can recommend it with confidence:

No. 1 STOCK SOLUTION.

Distilled water.....	20 ounces.
Neutral oxalate of potash.....	6 ounces.
Bromide of potassium.....	6 grains.
Oxalic acid—enough to make the solution slightly acid to blue test paper.	

This solution keeps well.

No. 2. STOCK SOLUTION.

Distilled water.....	4 ounces.
Sulphuric acid (or citric acid), enough to make the water slightly acid.	
Protosulphate of iron.....	1 ounce.

This solution does not keep well, so it should be mixed fresh every day if possible. To develop, mix just before use:

No. 1 Stock Solution.....	8 drachms.
No. 2 Stock Solution.....	1 drachm.

The above suits many plates, but if less density is required, use more of No. 1, and if more density is necessary, use more of No. 2. The same developer can be employed for two or more plates, if used within about half an hour of being mixed.

The development is generally very rapid, as the image usually begins to appear in from twenty to thirty seconds, and development is completed in from sixty to ninety seconds, if the exposure has been correct, or nearly so.

The development must be stopped the moment all the details in the shadows, that are desired in the finished picture, are visible by reflected light—i.e., when looking down upon the plate, as only very slight density is required. To stop development, the plate must be rinsed quickly, with two or three different portions of the following (or some similar) acid solution, in order to remove the developer from the film, and then well rinse the plate in clean water, and fix in some good acid fixing bath, such as that given below, or the AGFA acid fixing salt, or some similar preparation sold for the purpose.

ACID SOLUTION.

Distilled water.....	50 ounces.
Hydrochloric or sulphuric acid.....	$\frac{1}{2}$ ounce.

ACID FIXING BATH.

Distilled water.....	40 ounces.
Hyposulphite of soda.....	8 ounces.
Metabisulphite of potash.....	1 ounce.

If the film tends to frill in the acid bath, add the acid to a saturated solution of chloride of sodium instead of using plain water.

Light for the Dark Room.—For this purpose I use a night light paraffin lamp, in a lantern having one thickness of canary fabric, between two thicknesses of colorless glass, which gives a light of the right color for seeing clearly the proper time to stop the development. And if the plates are changed at a suitable distance from the light, say, two or three feet, they will not get fogged. The development can be conducted within six to twelve inches from the light with safety. After fixing, wash the plate as well as time will permit, and then bleach (or, whiten) it in the following solution:

BLEACHING OR WHITENING SOLUTION.

Distilled water.....	10 ounces.
Chloride of ammonium (or of sodium).....	4 drachms.
Bichloride of mercury.....	4 drachms.

The image will be bleached through to the glass, in about three minutes or less in warm weather, but takes longer in cold weather, and will be quite white enough to please anyone, and will be far whiter than most collodion glass positives are.

It is now well washed, dried and varnished, with a colorless negative or tinted positive varnish, according to taste. This will tend to improve their appearance and render them much more permanent than they otherwise would be.

Note.—The more thoroughly the pictures are washed after developing, fixing, and bleaching, the more permanent they are likely to be. They also appear to retain their color—i.e., whiteness, longer when they are kept in a dry place and in the dark than when they are exposed to strong actinic light; but, of course, their color can be restored by removing the varnish and bleaching them again. I have some twelve months old that are as good as when first made, so when well washed, etc., they are likely to be quite permanent enough for all practical purposes, but cannot equal those by the wet collodion process in this respect, some of these I have are forty years old, and are as good now as the day they were produced.

Backing Up the Pictures.—Black or maroon cotton, or silk velvet, or velveteen, is the best possible material to back up the pictures with. If black varnish is used, the picture will be ruined.

Defects in Pictures.—If the pictures are flat, it is probably due to over exposure, over development, or using too much of No. 2 solution in the developer, or to fog. Pictures devoid of detail in the high lights and deep shadows are due to under exposure, over development, and perhaps to too much of No. 2 in the developer, or a combination of the above causes may lead to the defects mentioned.

The kind of image necessary will look extremely thin (i.e., a mere ghost) when viewed by transmitted light, after fixing and before bleaching; very much thinner than an ordinary negative would look. But the bichloride of mercury solution not only bleaches or whitens the image but also intensifies it.

NATURE OR ART.

THE following extract from an article on "Individuality," by A. Horsley Hinton, in *THE AMATEUR PHOTOGRAPHER*, will, better than anything we could say, answer a question often put to us, as to the difference between what is a picture and what is merely a copy of nature; between "the record of fact" and the "usual thing."

"It has been well said that Art expresses an idea, and *pretends to copy Nature*. Now the "idea" need not be a hint as to things concrete; a mentally constructed incident or co-related facts it may be, and more properly is a mere apprehension, perception, sentiment, aroused by the grouping of forms, or contrasting of tones. Any work of art, which represents not a material object but the mental conception of a material object, is in the primary sense of the word *ideal*," says Mr. Ruskin. So the idea is not the material, but is suggested or conveyed by a special representation of the material; the *ideal* is something better than the *real* and hence a realistic representation, a transcript of Nature, will not avail.

"At the risk of being tedious I want to have it very clear that the picture, be it photograph or otherwise, is the realization of an impression which conveys an idea, and I want to make it clear of what manner the idea may be; when it will be easier to understand why it is not sufficient that a "picture" be like Nature or true to Nature—why, indeed, the pictorial photograph must be something more than only true to Nature. And this, if I mistake not, is commonly the photographer's initial difficulty. Then I will try to give a practical application to these principles, and so justify a sentence in my lecture before the Camera Club (London) early this year, when I said that "the most perfect, the most faultless reproduction of any object in Nature could not possibly be a picture; that is to say, using the term picture in the sense of an artistic word. If a photograph of a scene were ever so perfect in drawing and perspective and tones and color values it could not possibly be termed in its limited sense a picture—a picture must be personal." That sentence has brought me a good deal of correspondence combatting the statement, but I hold it as strongly as I hold to anything, and am confident that others will benefit by *understanding* it and accepting it, too.

"Perhaps it will be sufficient if I only enlarge now on two points in the foregoing, namely, that the picture must be the creation of the artist's imagination, and also that *Art pretends to copy Nature*. Both statements obviously make more difficult the position of the photographer, whose process *does* and must copy Nature, and gives him on the face of it small opportunity of giving shape to his mere imaginings; but the difficulty is not insurmountable, not so great as it appears, as I will try to show anon. Besides, to be honest and thorough we need to ascertain what is essential to Art, even though that knowledge should render the abandonment of photography as a means of Art inevitable; it were worse than foolish to construct principles of Art to fit what may seem to be the artistic incompetences of photography, and so flatter our pride.

"Now let us see. The picture is the creation of the artist's imagination—"The lowing kine wind slowly o'er the lea." To convey the idea of this is not enough to depict a winding procession of cows on a grass meadow—there is the stillness of evening, the kine are not driven, 'the lea' is not just a suburban field with smokestacks and gasometers towering on the sky line; in short, the kine must have an *ideal* landscape setting, the very composition of the different parts of which must be such as to please the eye and soothe the senses. But you may contend the artist is borrowing his idea from a line of poetry, which is beside the mark. Very well, then, let us have it that the artist receives his impression at first hand from some landscape scene. Some scene is chosen, the delicate tracery of tree branches is spread out upon a pale sky, and between each twig slow clouds gleam like gems set in alabaster, the freshness of new green is gradually overrunning the faded yellow grass, which has weathered the winter through; over the black hedges and brushwood there twinkles like scattered chrysopras a shower of fresh green leaves, lowly herbs are upspringing, and the sun makes a glitter on every shoot, and looks at his own miniature reflection in every dewdrop he has not dried up. Here, then, is the motive, here the source of idea. But the scene also contains much that is not essential to it, much that is commonplace and destructive to it, whereas here

some feature made the most of, there some herbage brought out a little stronger will help the effect. Some graceful bramble spray, with more developed leaves borrowed from a bush hard by, but by chance not actually in the field of view; this tree stem straightened slightly, that one more bent may the better express the idea and express it in terms of greater symmetry or more pleasing design; the artist to convey his idea in the best way possible is imagining a more perfect scene than that actually before him; he produces an *ideal* scene. Art pretends to copy Nature; the picture seems like a copy of Nature, even if entirely imaginary, because imagination is founded on knowledge, and the idea which it is the picture's mission to convey is also derived from Nature. When, as we say, a man draws upon his imagination he merely evolves something out of his knowledge of things; he mentally constructs out of a collection of real fragments, and his impression of Nature, and the idea he would express, curb this imagining from too wild an excess, from becoming so whimsical or grotesque as to provoke the condemnation, 'unnatural, impossible.'

"Mr. W. E. Henley, in the course of his criticism of the work of a certain great artist in literature, has a passage which one may quote appropriately. He says: 'This is the merit and distinction of Art: to be more real than reality, to be not Nature, but Nature's essence. It is the artist's function not to copy but to synthesize: to eliminate from the confusion of actuality, which is his raw material, whatever is accidental, idle, irrelevant, and select for perpetuation that only which is appropriate and immortal.'"

A STORY THAT MAY BE EITHER FABLE OR FACT.

By F. M. S.

It is easy to tell by looking at a man's work how much he knows, how little he knows, and from where he has got his knowledge. Now that photographers are making their prints look like charcoal drawings, artists are returning the compliment by making their paintings look like photographs. One of the least pleasing things about many paintings is that they have, or give evidence of, no reserve, no latent power. The artist has in too many cases been too anxious to show how clever he is. Much of this cleverness often turns out to be neither more nor less than a close study of photographs. Among the painters of my acquaintance is one whose work used to puzzle me. His pictures are full of detail—too full for my eyes—most carefully, almost effeminately, finished—in fact, fit for any drawing-room of the Victorian age, they are so pretty. What bothered me was that I never by any chance saw my friend at work, neither in the country nor at his home. He never seemed to do anything but talk. Yet his pictures appeared by the dozen, one after the other, in the windows of the carvers and gilders. One day I happened to be in a city up towards the border. As I was passing with a friend we stopped to look in the window of a fine art dealer. There I saw two pictures by my painstaking, lady-like painter. My friend saw me looking at these pictures, and remarked: "Do you know 'A. H.' is a lady? She calls herself 'Adolphus Hogbrush'—(of course that is not the name, but it will do here)—because she finds the dealers do not take the same advantage of men artists as they do of women." I explained that I knew Adolphus Hogbrush quite well, and that I had been in his house in Shoddytown, where I had seen innumerable examples of his work. My friend replied, "To prove that you are wrong, I will take you to *Miss* Adolphus Hogbrush's studio, and you shall see her at work." In a short time we found ourselves outside a door at which my friend knocked, and at the same time shouted, "May we come in?" "Yes," came the answer in a high-pitched key. My friend introduced me as a photographer who made pictures—he was given to flattering—to the lady artist, who, as he expressed it, colored photographs. She slapped her pocket in a masculine way, and asked me to look at her work. Her easel was a novel one. It was three easels in one, side by side, with a long board, about 12 feet by 18 inches. On this were some nine or ten 12 by 10 faintly printed bromide enlargements, all of one subject, which were in process of being turned into water-color paintings. My friend then told the lady painter that I was under the impression that she was a man. He went on to say that I had even met her in mascu-

line attire in Shoddytown. I will not say that the lady blushed or seemed put out at all on hearing this; but her muscles betrayed her; her little fingers gave an involuntary twitch, just as those of a nervous sitter do when she hears the shutter open or shut. She, however, laughed as if I was not the only one who was mistaken, and then went on to say that she found a faint bromide enlargement much nicer to paint on than a pencil foundation, which was often greasy, and then apologized for her prolific array of so many copies of one subject—her "duplicity," she called it—by explaining that she had a dealer in every British colony, besides one in every large town, who took her works, and that she had therefore no scruple in sending them "the same thing over again" (she said it in Latin). I came away with the idea that the woman was no fool; but what about my friend in Shoddytown? Some time afterwards he solved the mystery for me. He did it unwittingly. One morning early I was looking over the railings of Whitby Harbor, when I saw a man with a hand camera, it was a very small one; he came nearer, and as soon as ever he recognized me he put his camera behind him and smuggled it into an inside pocket. All was now as plain as a pikestaff. Adolphus Hogbrush made snapshots, posed as a painter; he employed the lady at ——— to paint bromide enlargements from his snapshots, and both of them made a good thing out of it. It explained, too, why there was no reserve, no latent force, in Adolphus's work. Bromide enlargements were at the bottom of it.—*Amateur Photographer*.

FIRST SALON OF THE TORONTO CAMERA CLUB.

TWELFTH ANNUAL EXHIBITION, APRIL 21 TO MAY 2, 1903.

The Toronto Camera Club selected for their first Salon, a date which turned out to be a most unfortunate one. First, a trial of the alleged bribery of a member of the Legislature by a member of the Cabinet. Second, the death and funeral of the aged Lieutenant-Governor, and last by though no means least the Horse Show. All these had an effect on the attendance, and what was most to be regretted, made it almost impossible for the press to devote any space to notices. Reporters made copy easily enough, but alas! there was no room for it, and the Salon had to go unnoticed.

"The club was however, fortunate in securing a good jury of selection; Mr. Manly, President of the Ontario Society of Artists, and an Associate of the Royal Canadian Academy; Mr. Reid, a member of both organizations, and Mr. Kennedy, one of the leading professional photographers of the city, made up a trio of great ability, and their work when completed was generally approved.

The Loan Collection of the Photo-Secession naturally attracted most attention. The remarks by some of the visitors not yet educated up to such a standard were most amusing. Mrs. Kasebiers's portrait, "The Smoker," was much admired; and No. 14, "Watching for the Return," was considered one of the finest works in the collection.

Mr. Steichen's four prints attracted a good deal of attention from artists, who seemed to thoroughly appreciate his work.

The eleven prints by Miss Alice Boughton, of New York, were always surrounded by visitors. "The Parson" was generally admired. Mrs. Pocahontas Jacquemin's "Dorothy," Mr. Maurer's three prints; three from Mr. J. R. Petersen, of Portland, Me., and Mrs. Brigman's six, were about the best from outside points. Mr. Herbert Arthur Hess had no less than fourteen accepted, nearly all very good work.

Of the local exhibitors it is hardly necessary to say that the prints by Messrs. Lefroy, Hodgins, Carter, and Stovel were up to their usual high standard, which has caused their work to be accepted at Salons everywhere. Mr. W. B. Blackhall had a study in Gum—"The Stone Hookers"—which gave evidence that he had thoroughly mastered the technical difficulties of that process, and he will be heard from again at future Salons.

Miss Beatrice Lukes sent two carbons on opal, "Winnifred" and "Child Study," but her best was the "Study of a Boy," which in every way was about perfect.

It is understood that some of the members of the club would have preferred the old style of exhibition with medals and awards, but the serious workers of the club who always try to improve, are satisfied with the result and future exhibitions will be on Salon lines.

OUR SUMMER HOME BY THE SEA.

WE suppose everyone who has gone year after year a decade to one particular place during the holiday season, whatever may have been his motive for leaving the comforts of his home, or the objects sought to be obtained in his temporary abode, thinks his own place the best, or at least the best for him.

Be that as it may, we have no doubt whatever that for us the most beneficial summer home has been Point o' Woods, the growth of which we have watched since July, 1894, when the bulk of the visitors were sheltered in tents on the dunes, till this year there are some seventy cottages, two good and comfortable hotels, a hall in which Divine service is



TENTS ON THE DUNES.



COTTAGES ON THE DUNES.

carried on on Sundays and terpsichorean exercise for those who want it, on the Saturday evenings; a bathing pavilion, a shelter from which to watch the bathers, and surf bathing equal to anything to be found on any coast.

Point o' Woods is situated on the strip of sand dunes that for a distance of about 120 miles separates the Long Island Great South Bay from

the ocean, and occupies about four-fifths by one-fourth of a mile, five miles east of Fire Island Light. From New York it is most conveniently reached by the Montauk division of the Long Island Railroad to Bayshore, and from thence, by the launch "Point o' Woods," which crosses the $4\frac{1}{2}$ miles of beautiful bay, through a channel thrice that length, in about an hour, landing its delighted passengers at a most substantial dock at any state of the tide, as it extends out to the channel, a distance of 550 feet.

It may be interesting to know that, substantial and long as the dock



ENTRANCE GATE, SHELTER AND OBSERVATORY.

is, it may, in a sense, be said to be only temporary, as it is, at a cost of between two and three hundred dollars, taken up and piled on the shore at the end of each season and replaced at the beginning of the next.

From the dock the visitor enters the grounds through a gateway, both the lower and upper floors of which are generally pretty fully occupied as a quiet shelter by those who spend much of their time in reading, and, especially on the Saturdays, as an advantageous point of view from which to watch the weekly boat races.

Once through the gate—perhaps a better name would be the arch—the visitor finds himself on the central board walk, thirteen feet wide,



POST AND TELEGRAPH OFFICES.

leading past the Gerard, the principal hotel, and several cottages, to what may be called the business centre of the place, the post and telegraph office, and the store, which aims at stocking everything, or getting what it has not within twenty-four hours. Here the walk branches off to right and left, the former leading past the cottages on the central

ridge, the hall, and right on through the woods to the Club House, which keeps our time by its morning and evening guns; the latter past the Ocean House, another good hotel; past the windmill, that sends excellent water to both hotels and such cottages as are willing to pay for it, and an engine house, with a hot-air engine to keep up the supply when the wind fails; on to the ocean and the cottages on its ridges east and west.

The dunes, although including nothing but sand, in the mass a light gray, but under the lens colorless and perfectly transparent crystals of quartz, are, where not interfered with by the destructive hand of man, which is nearly everywhere, are covered with dense vegetation, including more varieties than we have space or knowledge



COTTAGES ON THE RIDGE—LOOKING EAST.



COTTAGES ON THE RIDGE—LOOKING WEST.

to mention. Early in the season the blossom of the beach plum covers them as if a snow storm had visited the place. In June and part of July wild roses cover it as with a carpet, and they are followed by the azalea, the lobelia, the evening primrose, the sea pink, the golden rod, the marshmallow, etc., so that the table need never be without its floral decoration.

Just how or from whence those beauties are fed is beyond our ken, as the "soil" on or in which they grow is, as we have said before, absolutely nothing but colorless, transparent crystals.

Point o' Woods is owned and controlled by the "Point o' Woods Association," an incorporated body, the members of which aim, not at a money making speculation, but at the establishment of a cottage and hotel residence where there shall be everything possible to please and nothing to offend the most fastidious. With the Great South Bay on one side and the ocean on the other, it is equally attractive to the fisherman, the yachtsman, the photographer, the surf and still-water bather,

and to the exhausted professional or business man whose only desire is "Rest for the Weary."

Then, the people who have hitherto found their way to the resort are, according to our idea, just the right sort, and some of them have continued to come season after season for the whole nine years of its existence. They are not of the ultra-fashionable that strives to outdo each other in the matter of dress—that, to some at least, makes life a burden—nor of the rough and noisy set for whom there is no attraction; but are

more like to members of a happy family, each of which works and plans for the happiness of all the rest, with perfect politeness combined with perfect freedom; anything short of "shirt sleeves" being *comme il faut*.

Point o' Woods, in short, is an ideal summer home. From almost every point of view there is the foreground of restful green, the distance, the ocean in its ever-changing moods, and the excitement of watching the outgoing and incoming steamers; or the bay,



THE WOODS ON THE WAY TO THE CLUB HOUSE.

with its many sails, "white wings" floating hither and thither, fishing, or sailing for pleasure under such cloudlands, and, in the evenings, towards such sunsets as are rarely seen elsewhere, and which for glory must be seen to be believed.

But there are spots in the sun, and sometimes a fly in the ointment. Point o' Woods has one fault: a superabundance

of poison-ivy amongs its rich vegetation, too intricately mixed up with it to be eradicated, and too toxic to be handled with impunity. But, thanks to an accidental discovery in connection with the fixing bath, we found, six or seven years ago, a perfect cure for it. Half an ounce of sodium hyposulphite dissolved in a teacupful of water and applied as a lotion every two or three hours acts like a charm.

In conclusion, just a word about the illustrations. They were, without exception, time exposures, none less than two seconds, and some twice as long, and with F-22, the object in all cases being "records of fact." The plate speed, 78 Wynne.



THE CROSSING ON THE WAY TO THE CLUB HOUSE.

EDINOL FOR WARM TONES ON BROMIDE PAPER AND LANTERN SLIDES.

By HARRY WADE.

It often happens that instead of the usual black and white tone of a bromide print a warm one would be of advantage. By warm tone I do not mean a red, but a warm black, differing from the usual black or blue-black, obtained from ferrous oxalate, amidol, or metol-hydrokinone. Certainly warm blacks can be obtained with pyro-soda in conjunction with acetone-sulphite, but the pyro is apt to stain the paper yellow, whereas edinol works in a perfectly clean manner with no staining at all. The exposure must be increased considerably, and the following developer made up:

Edinol	20 grains.
Acetone sulphite	120 grains.
Potassium carbonate	150 grains.
Water	5 ounces.

Taking equal parts of this stock solution and of water to develop, the image will appear slowly but will have a warm color. This, of course, is obtained owing to the addition of acetone sulphite. If the same developer is employed, but substituting half an ounce of sodium sulphite for this product, a pure black tone will result. This is for the ordinary platino-matt bromide papers used for enlarging and other purposes.

If, however, we are desirous of obtaining a warm tone approaching a sepia, it can be obtained on any of the slow bromide papers, such as Rotokon, S. C. P., etc., by using a developer as follows:

Edinol	48 grains.
Acetone sulphite	80 grains.
Sodium carbonate	1 ounce.
Water	10 ounces.

To develop, equal parts of this stock solution and of water are taken, adding a few drops of a 10 per cent. solution of potassium bromide at the time of using. The tone depends upon the duration of the exposure and the amount of bromide added. As a guide it may be mentioned that for a brown tone one and a half inches of magnesium with half a dram of the bromide solution to each ounce will be about right. For sepia tones from three to six inches and from one to two drams of bromide solution will be necessary,

but, of course, much depends upon the density of the negative.

If we wish still warmer colors we can prepare a developer as follows:

Edinol	10 grains.
Hydrokinone	20 grains.
Sodium sulphite	1 ounce.
Sodium carbonate	1 ounce.
Water	10 ounces.

To develop one ounce of this stock solution is mixed with one ounce of water. To this one dram of a 10 per cent. solution of bromide is added. The exposure required will be anything from six to eighteen inches of magnesium—in fact, a faint image is sometimes visible before developing, and the colors vary from sepia to red. More bromide up to two drams should be added for the red tones.

When development is complete, the prints should be immersed direct into the hypo, as although the development at first is slow, towards the last it is very rapid, and if we stopped to rinse the plates before placing them in the hypo, we should find them very much over-developed. The prints lose somewhat of their richness in the fixing, but they regain it to a certain extent on drying.

The making of lantern slides is one of the simplest, and at the same time one of the most difficult of photographic processes. This may sound somewhat paradoxical, but is nevertheless true. It is very simple to make a slide, but, oh! so difficult to make a good one, as many amateurs, who try for the first time, find out. It is not within the scope of this article to deal with the processes of actual slide making, but with the development of lantern plates. The processes in general use are gelatino-bromide and gelatino-chloride, although collodio-bromide is still employed to a certain extent. It is the former that is used by the majority of amateurs, no doubt from its rapidity and cleanliness of working. Assuming that we have exposed our plate and that it is awaiting development, and that we have decided upon a warm brown tone, we make up a developer as follows:

Edinol	40 grains.
Potassium metabisulphite	120 grains.
Potassium carbonate	300 grains.
Water	10 ounces.

To each ounce of this developer we add about half a dram of 10 per cent. solution of bromide. The plate develops slowly, but it is of a rich warm color, very suitable for a summer landscape

for old buildings, etc. The developer is simplicity itself, it is in one solution, it keeps indefinitely, and it does not stain. Those who use it will be surprised at the ease with which good lantern slides can be produced with it.—*Photography.*

FLASHLIGHT PORTRAITURE.

W. S. RITCH.

Synopsis of a lecture Illustrated by Practical Demonstration Given Before the Brooklyn Camera Club.

A machine which will enable the photographer to place the light where he chooses and to make his own stand by his camera where he can watch the pose and expression of the sitter is a necessity in flashlight portraiture. I am using a Lieber machine which consists of a long rubber tube and bulb attached to a little air cylinder, a plunger in which explodes a paper cap in the tray which contains the powder.

Bayer flash powder seems to be about ideal, being non-explosive, making no smoke worth speaking of and throwing off very little dust or smell. Although some of my best pictures have been made on Eastman film I have found isochromatic plates to give the best all-round results and generally use the instantaneous. The light should be arranged exactly the same as you would arrange daylight, the advantage of the flashlight being that you can allow the subject to remain in any part of the room and by placing the machine in the proper position can obtain any lighting you want from a broad full lighting to the finest Rembrandt effect.

A sheet should be arranged as a reflector to soften the shadows just as you would do to obtain a good daylight portrait, and I have found it advantageous to use a cheese cloth screen between the light and the subject to diffuse and soften the light. As the flash gives plenty of light I think any lens will make a very good picture, but I have found that the back lens alone of the rectilinear will give better results than the double lens, as you then have a lens of much longer focus, which softens the lighting and enables you to get a larger picture on the same plate with better perspective. Of course this can only be used with a camera having a long draw. For heads I generally use the full opening, but for little children who are likely to move from the exact spot you focus on I think it is well to stop down somewhat in order to obtain greater depth of focus. The flashlight

is especially useful in taking pictures of little children, as the exposure is practically instantaneous, and you can have light enough to stop down as far as f-22, or even farther if desired.

Do not develop flashlight negatives with a normal developer, even if the exposure is just right, but use about one-third normal developer to two-thirds water and do not be too economical with developer. It is better to use fresh developer for every two or three plates to bring up the shadows which are apt to be a little under-exposed. Development should proceed slowly and gradually, taking in all about 10 or 15 minutes to complete development, and it is well to place the tray in a box with a cover, so that no light will reach the plate except for the few seconds necessary to see how it is coming on, as, with this prolonged exposure and using isochromatic plate you are apt to have a fog unless care is taken in this respect. If the high lights should come up too quickly and you do not have enough detail in the shadows transfer the plate to a tray containing clear water, put the tray in a perfectly dark place, a box or closet, and leave it there for 15 or 20 minutes, when the detail will be found to have come up in the shadows and in the high-lights will have gained very little density.

You are not likely to succeed in flashlight portraiture by trying an occasional flash just for the fun of the thing, but if you put your mind and heart into this one branch of photography, studying and practising persistently, taking advantage of your failures to do better next time, and using more brains than anything else, success will be comparatively easy. Persistent thinking on one subject will accomplish anything.

COMPOSITION IN PORTRAITURE.

Under this modest but comprehensive title there is about to be published a book that should go far to revolutionize the professional portraiture of the present time; a book that will be an art school for the photographer for whom it is especially written; and that will do more than anything that has yet appeared to educate the general public up to an appreciation of the creative art possibilities in photography, and to a recognition of the vast difference between a portrait that is merely a straight photograph—"the usual thing"—and a portrait in which there

is both character, expression and "soul."

From an advance prospectus we see that the book contains 16 chapters and includes a statement of "the fundamental principles underlying all pictorial art presented in such a manner as to be especially applicable to photography"; illustrated largely by "straight photographs" side by side with the same subjects pictorially treated; and "the evolution of the art problem presented, explained by numerous pen and wash drawings."

When we say that the author is Otto

Walter Beck, the well-known teacher of art in the Pratt Institute, Brooklyn, we need say no more as to what may be expected of the book; although, when it appears, we hope to have much to say in its favor, and of the necessity for every photographer who would keep abreast of the times to study it carefully.

A work so profusely illustrated must necessarily be costly, so that its price \$10, should not be considered too high; and as it is to be published by subscription, those who would be first served should send to the author, Pratt Institute, Brooklyn, N. Y.

OUR PORTFOLIO.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y. During June to Clifton Springs, N. Y.

1604. G. A. Smith.—"In Lake Tower Park" suffers considerably from the unpleasant greenish-black color of the print and also from having been printed too deeply. It is an over-printed print from an under-exposed negative; the right-foreground, the plants rising from it, and much of the foliage in the middle distance being simply blackened paper. It is, however, a good subject from a satisfactory point of view that, with better technique, would have been a fine picture.

1605. John Hulshart. — "Cooper's Glen" is an excellent photograph of what, from a suitable point of view, might have been a fine subject, but which, as it is, is a confusing conglomeration of trunks and branches, with what may be falling water behind. It may have been impossible to find a point from which the fall could be photographed without the obtrusive tree trunks in front, but if so, the plate should have been kept for something better with such fine photography.

You have thoroughly mastered technique and should now learn how to "see"; how to recognize the truly pictorial and how to apply your knowledge and ability in its reproduction.

1606. F. S.—"New River" has been over-developed to an extent that makes sky and water and the road in the foreground simply white or unchanged

paper. It is a fine subject that, with a longer exposure and just sufficient development would have been a pretty little picture. Probably reduction with



ammonium persulphate might bring the lights to something like their true values without destroying the detail in the shadows. You may always take it for granted that when you cannot get the necessary detail in the darks without forcing development till sky and water are opaque, the exposure has been too short. This would have been good if development had been stopped in time, but better with 50 per cent. more exposure.

1607. John W. Woodward.—"On the Bronx" is not nearly equal to your last. Water is rarely, and certainly not here, properly represented by black paper, and the trees or saplings are merely black lines, while the specks of



light are scattered all over. For such small prints simpler subjects would tell better and be easier managed. There is in this a large quantity of material, but not one object of more importance than another, and nothing at which the eye cares to take a second look.

1608. W. J. Merrill.—"Moonlight on the River."—If, as you say, this is the result of a moonlight exposure of 1-100 of a second with F-45, you have got more than we should have expected, although so little as to be absolutely worthless for any conceivable purpose. Unless for some experimental purpose it is simply a waste of time and material.

1609. H. Bothwell.—"Clouds." When clouds are to be photographed



for themselves alone, as in this instance, two things should govern the act, both of which you have neglected; satisfac-

tory selection and correct focusing. In this a formless mass of black runs diagonally across nearly the whole space, with two equally formless masses of white, or rather gray, suggesting none of the beauty of cloudland, and indeed would hardly be taken for clouds in the absence of the strip of foreground and trees. The only clouds that can be photographed with advantage on such small sizes are the small fleecy kind on a blue sky, and with a suitable color filter or screen; and then you must watch and wait till they assume a form and arrangement that shall be truly pictorial.

1610. A. Levine.—"Where Sunshine Glances" is a fine subject beautifully photographed; an excellent example of "straight photography," a phase that will remain long after many of the present fads or straining after originality, but that is really eccentricity, have been forgotten. Selection and placing are satisfactory, and the atmosphere in the distance is charming, but it misses the higher pictorial qualities in its lack of suggestion and concentration. All there is is seen at a glance, nor does it contain any one object of more importance than another; so that, beautiful as it is, it lacks the qualities that make us go again and again to some pictures. One improvement would have been the destruction of the reflections by troubling the water just before exposure, and another, which, of course, was impossible, is the removal of the tall, thin central tree and its shadow like a spile driven through the miniature island in the stream. With all its faults, however, it is, as we said before, an excellent example of straight photography, and you will do better when you have given greater attention to the study of art.

1611. H. F. Porter.—"The Cornfield" is another example of the evil done by unwarranted appreciation, this being said to have been selected as one of the illustrations in the Christmas number of the *Art Interchange*. Although a somewhat hackneyed subject it is an excellent arrangement, well placed, and with a good deal of that rare charm in a photograph, atmosphere; but the values are unspeakably false. The spaces in the corn shocks between the stalks, are as black as developing paper can be made, while the stalks themselves are only a little

lighter, while a few of the broken bits scattered over the ground, pieces that have been in direct light, are white as unaltered paper. Then, the perspective, probably from a too near point of view consequent on the employment of a lens of too short focus, is painfully violent, the near shock measuring three inches, while the one next beyond is only three-quarters of an inch. But faulty as is the perspective, it is not so damaging as is the unnatural blackness, and that you do not see it as well as we is discouraging. In photographs such as this, where a record of fact has been the object, an exposure sufficient to light up the shadows and give something approaching true values is absolutely essential,

1612. W. H. Blacar.—“On the Penobscot” is hardly up to your recent standard. The wedge-shape is not generally effective, and here the little three-masted vessel is hardly sufficient to balance the heavy mass on the right. The most serious fault is the, at this time of day, intolerable white or “bald-headed” sky, which shading down, or, better still, printing-in clouds might have so easily obviated. Then, the excessive bare foreground that does not look *very* like water, might with advantage have been trimmed off to just below the first dark on the right, with a double advantage indeed, as, while getting rid of an uninteresting space it would also have lowered the sky line to its right place. These alterations would have made it a very pretty little picture.

1613. W. J. Burgess, Jr.—“A Hard Case,” a cobbler intently examining a hole in the sole of a shoe that he is about to repair, although not quite so

good a print as the negative could be made to give, is an excellent example of genre work. It is true to the life both in pose and expression, the only fault being the two prominent and disturbing light in the lower left corner—the edge of the tool-box. Lowered by local reduction to about the tone of the apron at the chest would be a decided improvement. It is a picture that the more we examine the better we like.

1614. P. A. Hesse.—“The Edge of the wood.” There is little or nothing to choose between the two prints, as, while about equally good photographs, the subject, from either point of view, has no pictorial or any other interest. No. 2, which you seem to prefer, and the same applies equally to No. 1, is a good photographic “record of a fact,” not worth recording. It includes no one object of more interest than another; nothing to which the eye should be led, and nothing to lead it if there were. No massing of light and shade, but an equal scattering of each all over. It is simply a good photograph of a subject not worth photographing. You should carefully study Robinson’s “Picture-making by Photography,” or some equally suitable book.

1615.—A. S. Johnson.—The portrait is a good specimen of what can be accomplished by using one combination of a R. R. lens. The posing is well managed and the drawing and perspective all that could be desired, but it is incorrectly focused. The sitters’ dress is sharp while the face is not. The softness in the face is, however, pleasing, but as this is the principal object in the picture the focus over the lower part of the body should have been equally or more diffused.

SOCIETY NEWS.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Clifton Springs, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest to our readers.

Camera Club of New York.

On Tuesday evening, May 12th, the first meeting of the club in its new quarters was held at No. 5 West 31st street, on the eighth floor of a new building equipped with an electric elevator. Not far from 50 members were present,

the meeting being presided over by President Crosby.

On opening the meeting about 9 o’clock he spoke of the delay in fully completing the rooms, but congratulated the club on the excellent location of the quarters and the many conven-

iences for actual work which had been provided. He saw no reason why the club as a club should not prosper. The secretary, Mr. E. Lee Ferguson, announced the action of the Board in deciding to defer the proposed International Photographic Exhibition and that decision was concurred in by this meeting. He also read resolutions approved of by the board of trustees, of which the following is a copy, regarding the lamentable death of Mr. J. Wells Champney on May 1st last.

WHEREAS, The Camera Club has suffered an irreparable loss by the untimely death of its beloved member, J. Wells Champney, be it hereby

RESOLVED, That we, the members of The Camera Club, unite in conveying to his wife and family an expression of our great sorrow at this event.

We also desire to express the very high esteem and affection in which he was held by every member of the Club, and to commemorate the great benefits derived from his always considerate counsel, his gracious criticisms, his unflinching kindness, and his genuine love of beauty as art. These, alas, will no longer be with us, but his memory and his teachings will live in the minds of us all.

They were unanimously passed by the meeting. The new treasurer, Mr. Rowley, read his first monthly report of the financial condition of the club, which made a good showing.

The president called attention to the scant responses to the call for subscriptions to the moving fund and urged that more be done in this line in order not to encroach on the reserve fund. It was estimated that the cost of moving and refitting the new quarters would be about \$2,000. This, it was stated, would more than absorb the reserve fund unless members came forward and subscribed more liberally. He figured for all the advantages the club gave, the present rate for dues made it cost each active member but a trifle over four cents per day.

Mr. Ferguson read an estimated statement of the probable receipts and expenses for the next six months, showing, after the payment of the fitting up of the rooms there would be a slight balance in the treasury by Oct. 1st. Mr. Dayton spoke of the needless alarm aroused by the proposed absorption of the reserve fund, since, under the

present lease, it would be a period of five years before the club might be obliged to move again, and during that time the reserve fund would be gradually increased, for the dues and income would exceed the running expenses each year, allowing that there should be no great loss in membership.

As chairman of a special committee appointed at a previous meeting to investigate and report upon the precise status of the affairs of *Camera Notes* he made an exhaustive and fair report, showing mainly that there was a considerable deficit between receipts and disbursements, and that the subscription list, outside of the club members, was limited.

The meeting voted unanimously to discontinue the publication, after the issue of the fourth number of the present volume.

A vote of thanks was given to Mr. Charles I. Berg for his donating to the club his services in planning the club rooms; also to Mr. Jones, the contractor, for making an allowance from his contract in doing the work.

A proposed amendment to the by-laws was submitted, advancing the annual dues from 20 to 25 dollars per year, and a resolution was passed fixing the third Tuesday of June as the date of a special meeting of the club to vote upon it. At a late hour the meeting adjourned.

Amateur Photographers' Club of New York.

At the last regular meeting of the Amateur Photographers' Club, 310 W. 53d street, the following officers were elected for the ensuing year: President E. Polasek; vice-president, Dr. L. C. LeRoy; secretary, J. J. Devantery; treasurer, E. H. Leis. Board of Council: D. W. Craig, M. F. Campbell, C. Gammon, J. Hunter, T. Cadigan.

The club has just moved into new quarters at the above address, where they are very comfortably housed.

A commodious and well-equipped dark room has been built, a feature of which is a novel and perfect system of ventilation which will be appreciated by the members in the coming warm weather.

The club possesses a small but exceptionally well selected library, which is being added to daily.

The basic principle of the Amateur Photographers' Club is mutual help,

and beginners are especially looked after. The dues have been made so low that they need not bar any amateur from joining this club.

Regular meetings are held on the first and third Fridays of each month, and the club rooms are always open to members or visitors. Amateur Photographers are cordially invited to visit the rooms, where some of the work of members is always on exhibition.

Brooklyn Academy of Photography. Annual Exhibition.

The annual exhibition of the work of the members of this flourishing society was held in the club rooms, 177 Montague street, on Thursday evening, May 10th. Twenty-one members exhibited 190 prints, and about the same number of lantern slides were shown by 4 members.

The prints and lantern slides were arranged and judged by classes, as follows:

A, landscapes; B, Marines; C, Still life (including flowers); D, portraits, figures and groups, E, animal life, F, genre, G, architecture (including interiors), H, miscellaneous.

A blue ribbon, as first award, counting three points; a red ribbon, second award, counting two points, and a white ribbon, for honorable mention, counting one point, was given in each class, and the exhibitor having the greatest number of points was awarded a gold, and the next highest a silver medal. The gold medal went to W. T. Wintringham, and two silver medals were awarded on a tie to Messrs. Myers R. Jones and T. G. Farquharson. A bronze medal for the most artistic print was awarded H. W. Hodges for his print, "Evening on the Battery, New York."

In the landscape class the blue ribbon was awarded W. T. Wintringham for his picture "On the Musconetcong"; "Autumn," by T. G. Farquharson, the red ribbon, and honorable mention to Dr. John Merritt for "Canoe Place," and Starks W. Lewis for "French Broad River, Asheville, N. C.," a charming landscape which was much admired. In the marine class the first award or blue ribbon went to W. T. Wintringham for "Close Hauled," red ribbon to T. G. Farquharson for "Sunset," and honor-

able mention to "An Old Wreck," by H. W. Hodges and "The Atlanta," by A. B. Mann. Still life, "Fleur-de-lis," William Arnold, blue ribbon; "Roses and Cut Glass," Ed. Esmonde; honorable mention to "For a Quiet Time," by H. W. Hodges and "Pond Lilies," by Sherman B. Price.

In the portrait class, which was the weakest in the whole exhibit, the blue ribbon was awarded to Ed. Esmond for "An Old War Horse," a striking portrait of a veteran of the Civil War; red ribbon "Portrait," by P. G. Farquharson, and honorable mention to "Study from Sistine Madonna," by Myers R. Jones. The blue ribbon in the genre class was awarded to Myers R. Jones for "A Street Scene in Paris," red ribbon to P. G. Farquharson's "The Smoke," and honorable mention to Myers R. Jones for "Carpenter at Work." In animal life, which included many well executed pictures, the blue ribbon was unanimously awarded Myers R. Jones, for "Children," a litter of puppies emerging from their kennel, he also receiving honorable mention for "Father of the Tribe." The red ribbon in this class went to W. T. Wintringham for "Animal Study," and honorable mention to "Bob," by T. G. Farquharson. The blue ribbon in architecture was awarded to "Congressional Library," a beautiful interior, by S. W. Lewis; W. T. Wintringham received the red ribbon for "An Old Long Islander," a gum print of an old windmill; Donald M. Somers received honorable mention for "Interior, Notre Dame Cathedral, Montreal." The blue ribbon in the miscellaneous class was awarded Samuel Baron's "Palais de Justice, Paris," he also receiving red ribbon for "Canal Street, Holland." William Arnold received honorable mention for "Moonlight on the Lake."

The gold medal for lantern slides was awarded to Donald M. Somers, and the silver medal to Myers R. Jones. Messrs. S. B. Price, H. W. Hodges, D. M. Somers, Ed Esmonde, M. R. Jones, S. W. Lewis (2) and Wm. Arnold each received a blue ribbon in this class and W. T. Wintringham, H. W. Hodges, D. M. Somers (2), Ed Esmonde, M. R. Jones and Wm. Arnold, the red ribbon. Honorable mention to W. T. Wintringham, S. B. Price, D. M. Somers, M. R. Jones (2) and Wm. Arnold.

Taken as a whole the exhibit was of a

very high order. None of the work was of the ultra fuzzy type, yet there was evidence of pictorial quality and artistic treatment. The judges were composed of two artists and one pho-

tographer, and their decisions were, in the main, satisfactory. An exhibition of the slides on the screen and a collation terminated a very pleasant evening.

OUR TABLE.

Books for reviews and apparatus and material for examination and report should be sent to Dr John Nicol, Tioga Centre, N. Y. During June to Clifton Springs, N. Y.

What promises to be the most popular and practical outfit of the tourist photographer this season is the Premo Film Pack and Premo Film Pack Camera. Of Premo cameras we do not need to say anything, as their merits are universally appreciated. This year, however, sees many improvements in the regular models, and several babies have been added to the family. One of these is a neat appearing box, listing about \$4.00, and is intended for use with the Premo Film Pack. Being of universal focus and having a simple shutter it is an ideal outfit for the beginner. The Premo Film Pack, by means of the film pack adapter, may be used in any camera. The operation is simple and accurate. Pulling out a numbered flap of paper exposes each film simultaneously and when the twelve have been exposed the pack may be removed from the camera in full daylight and another substituted. The film negatives do not curl and are of the highest speed and quality. For those who object to roll film the Premo Film Pack will prove equally portable and in many respects more satisfactory.

* * *

From the Forbes Dry Plate Works Rochester, N. Y., we have received samples of their S Orthochromatic plates together with some specimen prints showing their high efficiency in the correct rendering of tone values. The ortho plate is now used by all workers who aim at perfection in their work. Used without a screen they are far ahead of the ordinary plate and with a color screen, the most perfect rendering of clouds and landscape is possible. The Forbes plate has never been extensively advertised and is not so well known as it should be, but for twenty years they have been supplied to a certain trade and

are in steady use by many of the most scientific and critical workers throughout the country. After having given the plates the severest tests we may have something more to say of them in a later issue.

* * *

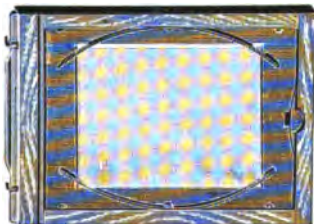
Messrs. Taylor, Taylor & Hobson, in their offices in the St. James Building, Broadway and 26th street, New York, have set up a unique testing camera. As will be seen from the illustration it is rigidly constructed and the focus-



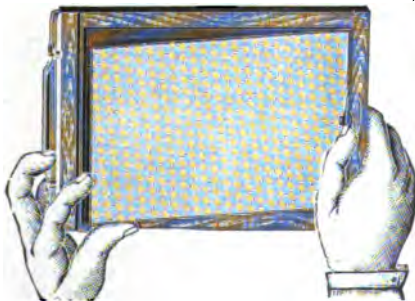
ing adjustment is smooth and delicate in action. The camera is not for sale and only two were made, one for their home office and one for the American branch for the testing and comparing of Cooke lenses. Mr. J. Ronald Taylor extends cordial invitation to all who may be in their vicinity to make free use of the apparatus in testing any lens. In front of the camera is a large ground glass screen on which is the usual geometrical squares and diagrams, lighted from behind by electricity. Adapting flanges are provided to fit all sizes of lens mounts. It shows the firm's faith in their own products to give such free opportunity for side by side tests.

* * *

For various reasons it is often desirable to use a smaller size of plate than is ordinarily provided for in the camera, and although this may be accomplished by the use of kits, their use has never been popular. From the Rochester Plate Holder Co., of Rochester, N. Y., we have received a specimen adjustable holder, which comes nearer to perfection than anything we have yet seen. By means of springs, as shown in the illustration,



plates of smaller sizes are securely held in position and each size of holder will accommodate three smaller sizes of plates. For example, the 4x5 size



takes $3\frac{1}{4} \times 4\frac{1}{4}$, $3\frac{1}{2} \times 3\frac{1}{2}$ and lantern slide size. When used in the full size,

the springs are bent back close to the sides of the holder where they are held by catches and the holder is then loaded in the ordinary way, the plate being held by a bottom spring. The Rochester adjustable holder is made in all sizes to fit all cameras, and in workmanship they are all that could be desired. As they will do more and cost no more than the ordinary holders they will no doubt be ready sellers and should be stocked by all dealers.

* * *

Would be fuzzygraphers and those who contemplate taking up pin-hole or lensless photography for its scientific interest will be interested to learn that the Century Camera Company have got up a very handy appliance at a moderate price which simplifies the work immensely. It is a revolving disc of thin metal, mounted on an adjustable front board, taking the place of the ordinary lens board of the camera. In the metal disc is a series of perforations corresponding to the size of aperture which has been proved most efficacious, and a shutter is also provided as well as a larger hole for use in adjusting the image on the ground glass. With the apparatus comes complete directions for use and exposure tables calculated for all kinds of subjects or degrees of lighting. Pinhole photography has a wide range of usefulness from wide angle work in confined situations to long distance views, in architectural and landscape photography, and the Century needle-hole attachment makes the whole thing simple. * * *

Charles Kuhn, who has built up a splendid photo supply business in Brooklyn in a few years, has moved to 489 Fulton street, where he now has a spacious store on the ground floor. The store is very tastefully fitted up and decorated and there are few establishments in the country with a more complete stock so well displayed.

* * *

New Speed Card.—The Wynne Infalible Exposure Meter Company's American agent, Henry Wenzel, Jr., sends a card on which the speeds of American plates and films are brought up to date, and while, personally, we do not care for anything like ultra speed, we are glad, for the sake of those of our readers who do, that several of our makers have made a considerable advance in that direction.

Knowing, as we do, the painstaking care of Mr. Wenzel, the fact that the speeds are the results of his experiments warrants us in saying that they may be taken as reliable. It should not, however, be forgotten that such speed numbers are intended only as guides or suggestions, and that they may be varied to suit the desires of the operator or the nature of the subject. In our work, for example, with the pictorial in view, we almost invariably increase the indicated exposure by about 25 per cent.

* * *

Anti Bronze.—One of the troubles with Collodion Matt papers has been the bronze iridescence, which comes sometimes on the high lights. Heretofore no remedy has been known; chemicals would not remove it, and even the most skillful printers reject some prints from bronzing. Anti-Bronze is a new preparation, which removes the bronze

when rubbed on with a piece of flannel. G. Gennert, 24-26 E. 13th street, New York, is agent for this preparation, which costs but a quarter, post-paid.

* * *

The Graphol Chemical Co., of 90 William Street, New York City, have lately brought into the market preparations of a most surprising simplicity for sensitizing various materials.

Their Graphol Blue produces the most beautiful pictures on stationery, envelopes, linen, silk, white canvas, glass transparencies, etc. Their Graphol Brown can be applied to the same materials, and also to wood, making pictures on wood similar to burnt wood effects.

We refer you to their advertisement in this issue, and any further information will be gladly furnished by the manufacturers.

LETTERS TO THE EDITORS.

Editors AMERICAN AMATEUR PHOTOGRAPHER:

DEAR SIRs: Some time ago, in the AMERICAN AMATEUR PHOTOGRAPHER, you had a series of published communications relative to making exposures on a moving object with a moving camera, and securing a sharp image.

We are unable at this writing to go back over our files of the AMERICAN AMATEUR PHOTOGRAPHER to see just what the arguments were *pro* and *con*, but as we recall it now, the editors were of the opinion that the feat would be impossible.

The enclosed print may be of interest to you in this connection.

The negative was made by a friend of the writer's, during a parade in this city on the occasion of the return from the Philippines of the 13th Minnesota Volunteers, President McKinley being here at the time.

The parade was moving at a fast walk and my friend was holding camera in hand, keeping the President's carriage in view in the finder as it came down the street, the camera being rotated at a pace to correspond with that of the parade.

When the desired object was opposite the camera, the button was pressed,

with the result that a sharp image was secured, and the stationary objects, people, etc., blurred by the motion of the lens during the 1-5 second (approximate) of the exposure.

You are welcome to make any use of this and the enclosed print that you see fit, and I would be glad to hear from you on the subject, or can give any further particulars you may wish.

Yours truly,
C. F. POTTER, JR.

An Interesting Letter.

Editors AMERICAN AMATEUR PHOTOGRAPHER:

DEAR SIRs: I send you six prints. Please do not criticise them too harshly as you are responsible for them. Some time ago I saw a copy of the AMERICAN AMATEUR PHOTOGRAPHER in the reading-room of the Y. M. C. A. and got interested, reading it each month. Finally I bought a 4x5 camera, and the prints are from the first six negatives I made. You will see that they are all pretty fair except one, which has a double image, as I snapped the shutter twice and the camera moved slightly. I never had any lessons except what I read in your magazine and the book I

got with my camera. The prints are on Solio paper and I used Cramer plates.

I have shown my work to others, and some tell me that I have had better luck with my first six plates than they have had after six months' experience and more.

I would like to send some pictures for criticism in portfolio and suppose I have to be a subscriber. In one number I see you offer the left-over copies of 1902 free, with a subscription for this year. Please let me know if I am yet in time for to get this. Respectfully yours

CLIFFORD A. MINER.

[Such letters are refreshing. Mr. Miner is on the right track. By read-

ing the magazine he schooled himself before investing in his camera, and consequently will save many dollars which are too often wasted in failures of beginners. Four of the prints are in every way equal to that of much more experienced workers and we will watch his progress with interest. Success is a powerful stimulant, and we hope to number Mr. Miner among our most valued contributors. Knowing the benefits to be derived from the magazine, our readers would do well to recommend it to their friends. Our publishers will be pleased to send a specimen copy to any names furnished. Eds.]

ANSWERS TO CORRESPONDENTS.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Clifton Springs, N. Y.

The Light and the Condenser.

G. W. L.—Experience alone is not sufficient, as is evident by your inability to overcome a very simple difficulty. There seems to be nothing wrong with your objective or condenser, and the reason why you fail to get rid of the bright disc in the centre, even although "certain that the light is perfectly centred," is that it is not at the right distance from the back lens of the condenser. Move the light to and fro till you secure an evenly illuminated disc.

Developing Uncertain Exposures.

T. C. WALKER.—For uncertain exposures, tentative development, as you have been practising it, is generally recommended, but if you have difficulty in judging as to time, why not employ an exposure meter? With either a Wynne or a Watkins you can always be sure of getting very close to it. We cannot, without seeing your prints, and better still, the negatives, tell if you are over or under-developing. Study the article on development on page 55 of our February number, and you will learn more than we can tell you here. No reducer is better than that you are using, nor does it need the addition of any other. "The Right Road to Photography," published by Genert, will tell you all you need to know.

Exposure for Interiors.

(Miss) F. W. F.—We cannot tell you "what would be a fair average exposure for an interior," nor "what are generally the limits"; but our collection includes a fairly good photograph of a well-lighted library, the light coming from three large windows on one side; and one of the principal rooms in a public museum lighted mainly from above, and the negative of the former was exposed for one minute, while that of the latter started on a Saturday at 1.30 p. m. and continued till 10 a. m. of the following Monday. In both cases the aperture was F-22.

Gelatine Mounting Paste.

W. O'BRYAN.—A good gelatine mountant for pasting photographs into an album with little tendency to cockle, may be made as follows:

Gelatine..	2 ounces.
Water.....	8 "
Alcohol.....	3 "
Glycerine.....	$\frac{1}{4}$ "

Soak the gelatine in the water till perfectly soft and dissolve by standing the vessel in hot water. Add the spirit gradually, with constant stirring, and then add the glycerine. It is used while still warm enough to be fluid; and

a convenient way is to warm a plate of ground glass by placing it in hot water, drain and brush it over with the mountant. On this lay the print, face up, pressing it into contact with a piece of paper, and, raising one corner with the point of a knife, lift it gently and transfer to the mount, rubbing down with a roller squeegee. The mountant will keep indefinitely, and needs only to be liquefied by placing the bottle or jar in a vessel of hot water.

Focal Fraction or Working Aperture of Lens.

DOUBTING THOMAS.—There need be no doubt about the size of the stops. Your measures are probably correct, but equally so is the statement of the makers that the aperture is F-6.8. While, as we have frequently said, focal fractions by measure are practically correct or near enough for ordinary purposes; in consequence of the concentration by the front lens the *measured* fraction passes more than the theoretical quantity. The apertures to which you refer are as correct as mathematics can make them.

Correct Perspective.

H. F. PORTER.—To secure a perspective that will appear correct, a landscape with your lens of 8.2 inches should not be larger on the base line than two-thirds of that; and for portraiture, according to some of the best artists, the lens should have a focus twice the length of the longest way of the plate. Keep your figures at about three inches and the enlargements will be faultless. The large hand was not the fault of the lens *per se*, but to get the size you wanted you had to take a too near view point.

Timing Development.

W. R. SAUNDERS.—You are mistaken; there is plenty of elasticity in time development. It is only necessary to shorten or lengthen the factor to get any degree of softness or hardness in the negative. The normal factor for Ortol, for example, is 10, 8 or 9, gives a soft, flattish negative, while 11 or 12 gives contrast up to a "soot and whitewash."

Avoid Complications.

BROMIDE.—You attach too much importance to formulæ and too little to the knowledge of how to employ it. Any one of the five you have so care-

fully copied is just as good and no better than any of the others. If we were to select one, however, it would be 3, only because of its simplicity; and, unless for some reason we wanted excess of contrast, we should omit the bromide, making it still simpler. Select any one you like, stick to it till you thoroughly understand its working, and you will find it satisfactory.

Using the Wynne Exposure Meter.

INQUISITIVE.—That you "do not understand the theory on which the meter is based" is surely no reason why you should not employ it, admitting as you do that "it is not far from O. K." The "meaning of the plate speed being given in focal fractions" or F values is just this: The focal fraction given as the speed of any particular plate is the size of the aperture or stop by which that plate would be correctly exposed in the "actinic time," the time taken to darken the test paper to the exact shade of the standard tint. For example, a plate with a speed of F-90 is of such sensitiveness that it will be correctly exposed with a stop of that value in whatever time it takes to match the test paper with the standard tint on the right of the disc, and the time required for one aperture or F value having been ascertained, it is simply a matter of calculation to find the time for all other F values or apertures, and as that calculation has been made and recorded on the dial it is only necessary to bring the speed aperture of the plate in line with the actinic time, to find the time for all other apertures.

Importance of Shielding Lens.

C. H. CARSON, JR.—Careful examination does not, so far as we can see, show anything like reversal in the print, all seven faces being clearly diapositive. There is a kind of veiling that we have never seen, and can account for only by supposing that the lens was not properly screened from the flash, or that the flash had been in some way reflected into it.

We think a careful examination of the negative will show that there has been no reversal, although from certain appearances in the right and left foreground it might indicate a double exposure. At the same time we are of opinion that there is nothing in the print that might not have been caused by a portion of the flash reaching the lens.



3d Award Genre.

'CARPENTER AT WORK.'

Myers R Jones.

Brooklyn Academy of Photography Exhibition

THE
AMERICAN AMATEUR PHOTOGRAPHER.

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NO. 7.

THE DARK ROOM LIGHT.



Myers R. Jones.

PORTRAIT."

OUR first intention on selecting the above title was merely to give to those of our readers whose photographic season begins about this time the usual caution to see that the colored media that made their dark room light safe at the close of last year's season had not so deteriorated as to be unsafe at the beginning of this, but second thoughts showed the necessity for something more, as will be evident as we proceed.

The light that was safe at the end of last season may not be safe now, and for two reasons, the tendency to fade of the reds and greens and mixtures thereof by which the textile fabric or paper was stained, and the increased sensitiveness and nearer approximation to orthochromatism of many of the modern plates. The ordinary plate of a few years ago, rarely exceeding in rapidity f-80 Watkins, and sensitive only to the blue violet, could be developed safely under almost all mixtures of red and green; especially the yellow (canary) and orange textile media, although most of the so-called ruby glass passed some blue as well as green; all or any one of which would, unless with the greatest care, fog to a greater or less extent the modern plate.

The first thing, then, is to put the dark room light to a practical test. A strip of card an inch broad and the length of the plate, which should be the most sensitive that is likely to be used during the season, is divided into five equal divisions, and marked respectively 1, 1, 2, 4, and 8. This and the plate are placed in the plate holder in the ordinary way, and in the dark or far enough from the light to be certain that it will not be affected. A watch or other time-keeper is placed where easily seen and the plate holder laid where the developing tray would be. When all is ready, the shade is withdrawn from right to left, the smaller numbers being at the latter end, and an exposure of one minute given. The slide is now pushed in so as to cover the first figure or step of the card, another exposure of one minute given. The slide is again pushed in one step and exposed for two minutes; the next four minutes and the last eight minutes; each step getting the exposure marked on it.

From this it will be evident that the steps have received exposures of one, two, four, eight and sixteen minutes, and on development, which must be conducted in the dark, that is, with the tray covered, the degree of safety of the light will be seen, as well as just how much exposure to that light during development that plate will bear without fog.

While on the light of the dark room, we desire to say that, so far as our experience goes, and it has been considerable, photographers generally, not excluding amateurs, keep their dark rooms too dark. It is not the quantity but the quality of the light that tells. Of course, if the light is bad, an ordinary gold ruby glass, for instance, transmitting both blue and green, the more of it that there is the greater the fogging; but with a copper ruby in which there is not a trace of blue, or with suitably stained media, the more the better, under, of course, reasonable limits.

In the dark rooms of probably nine amateurs out of every ten the source of light is one or other of the commercial ruby lanterns with lights averaging about 4x6 inches, and matters are made worse by the too frequent necessity of adding one or more thicknesses of "post-office" or other paper. Such a light does little more than make darkness visible, and development, instead of being one of photography's greatest pleasures, is an operation to be dreaded, to say nothing of the difficulty of reading labels or the frequent upsetting of graduates, etc.

There need be no difficulty in getting a safe light and plenty of it. The best and most comfortable that we have ever wrought under is Carbutt's "Safe Light," safe even with his polychromatic plate, which is more or less sensitive to all the spectrum colors; and those who have not developed under it or something giving an equal illumination, have yet to realize the real delight in development. We are too far from

home to say just what is the size of the plate or, rather, plates, as there are two of them, hermetically sealing the stained tissue through which the light is filtered, but 12x10 is a very good size.

But while recommending the commercial safe light, those who prefer to make one for themselves need find no difficulty. With three separate ounces of water make *a* a saturated solution of aurantia, *b* a saturated



1st Award Animal Studies.

"PUPPIES."

Myers R. Jones

Brooklyn Academy of Photography Exhibition.

solution of naphthol yellow, and *c* a solution of methol violet, not saturated, but of such a strength that a few drops on a piece of glass is decidedly violet by transmitted light. Then place in any suitable vessel, a glass beaker or porcelain dish, for instance, 60 grains of shredded gelatine, such as Nelson's, mix the three solutions and pour the mixture over it. Let it stand till thoroughly softened and place in a vessel of hot water till dis-

THE
END

solved. In the meantime have ready two sheets of good clear glass not less than 12x10, thoroughly cleaned and levelled; we prefer to have one of the sides of one of them ground. When the colored gelatine has partially cooled, but not near the setting point, and the plates heated to about the same temperature, it is poured on the centre in sufficient quantity to cover them as quick as it will lie, the spreading being assisted or guided by a glass rod also warmed. When thoroughly set the plates may be reared on edge, protected from dust till dry. It only remains to bind them lantern-slide fashion, although some prefer to cement them together with Canada balsam, a rather disagreeable, tacky job, and one that is not really necessary.

The construction of a suitable lantern, of tin, by a tinsmith, or out of a packing-box by himself is well within the ability of the average amateur, "suitable" meaning large enough—12x12x15, properly trapped and properly ventilated. The most convenient source of light is a good kerosine lamp, one with an inch or inch and one-half wick, which, if kept clean, free from oil outside, and properly trimmed, will emit none of the smell so often complained of; and while the light will be found safe enough for the most exacting orthochromatic plate on the market, there will be enough of it to show plainly objects everywhere around the average sized dark room, and make developing a delight rather than a dread.



No. 1627.

Marl S. White.

"AUTUMN ON THE BANKS OF THE GRAND RIVER."

1100

SPECIAL SUBJECT SERIES.—VII.

Mounting and Framing.

By DR. JOHN NICOL.



No. 1626.

ROSES."

Anna Beckstrom.

THE six previous articles having brought us to the finished print, the aim and end of the pictorial photographer, it now remains only to fit it for its ultimate destination, only four possibilities of which

need to be considered here, the album, the portfolio, the exhibition and the wall decoration.

By album I don't mean the at one time everywhere present family repository with the "*carte de visite*" and later the cabinet on stiff mounts stuck into openings in still stouter boards making the book bulge till it burst the clasps, and now, but none too soon, almost or altogether obsolete; but the neatly and strongly bound leaves of stout white or delicately tinted paper on which the prints are to be pasted; doubly stubbed so as to prevent bulging when the book is full of prints, both sides of each sheet being available.

Such albums of all sizes and to suit all purses are to be found in the stock houses or may be made to order to suit the tastes of those who desire them to show something of their own individuality; but those with fancy borders or marginal ornamentation, or indeed anything that would take the attention from the pictures are to be avoided. It should not be forgotten, however, that the casket exerts an influence on the appreciation of its contents, and that a quiet, handsome morocco binding quietly and neatly lettered will contribute considerably to the appreciation of the prints within.

Such an album forms, probably, the best receptacle for prints up to,

say 5x7; and may be made to hold one or two on a page; for the latter 15x10, hinged on the long side, and for the former 10 x 8, hinged on the short side; both sizes exclusive of the width of the stubs. With the larger size considerable taste may be displayed in arranging the smaller prints, although, on the whole, the smaller is the more convenient to handle, and as the albums may be cheap without being common looking, they are to be preferred.

The pasting of the prints on to thinnish sheets of paper has always been more or less of a difficulty, especially with a watery mountant, the water causing the print to expand, and by its contraction on drying producing unsightly cockling. As the outcome of a good deal of experience I believe that nothing is better than a solution of gelatine with as large a proportion of alcohol as it will bear. The following has been going the rounds, and if the right kind of gelatine happens to be got, it answers very well.

Gelatine	4 ounces
Water	16 "
Alcohol	5 "
Glycerine	1 "

Let the gelatine soak in the water till soft and melt over a water bath. Add the alcohol gradually with constant stirring, and then the glycerine. One simple and efficient method of application is to rinse a sheet of ground glass in hot water, drain and brush it over with the warm mountant. On this lay the print, face up, cover with paper and rub lightly, then lay it in position on the previously marked page of the album, pressing it down with roller squeegee. Prints thus mounted stick firmly and do not cockle on drying. While this answers well enough, I prefer to apply the mountant with a brush, and only a narrow strip around the edges, although it needs a little practice to do it well; and the print certainly looks better when not in mechanical contact with the mount. The only objection to the gelatine mountant is that it sets firmly on cooling, and before again using must be liquefied by being placed in a vessel of hot water.

Prints above 7x5, and the larger the more does it apply, are more conveniently kept unmounted in a portfolio; and for this destination preparation must, or at least should be made in the printing. Platinum or one or other of the various carbon methods are the most suitable; but a stout paper is a *sine qua non*; and a tolerably wide margin an equally essential condition, which, of course, means printing under a mat. The addition of plate mark has been a much debated question, many objecting to it on the ground of its being something foreign to photography and meaningless on a photograph; but it seems to me to have a

confining influence and as such, an improvement. It is easily made by passing the print and a suitable metallic plate through a press or burnisher, a few sheets of blotting paper being used as a yielding bed under the print.

Plate or no plate, carbon or platinum prints on heavy paper and with suitably wide margins, handed one by one out of a portfolio have a charm that belongs to no other method of preparing or storing photo-



3d Award Animal Studies.

Myers R. Jones

"THE FATHER OF THE FAMILY."

Brooklyn Academy of Photography Exhibition.

graphs, and a tendency to lift photography out of the merely pretty into the truly pictorial.

Prints for exhibition purposes require different treatment; but just what it shall be or should, will depend on circumstances, on the taste of the exhibitor and the nature of the exhibition. It may be taken for granted, however, that the print must be framed, and the first question is whether to frame "close up" or with a margin. Fashion influences this as it does most things, and there have been times when each method

has been in the ascendant, although the true artist will generally be guided by his own taste, and so long as he avoids vulgarity and eccentricity and realizes the beauty of simplicity he will not go far wrong.

As a rule, large broad pictures may with advantage be framed close up to a plain rather heavy bevelled moulding of stained wood, stained either in harmony or in contrast with the general color of the print; nor can fault be found with a narrow gold slip joining the picture to the frame. Smaller prints, rich in detail, seem to tell better with margins, and the smaller the print, the wider in proportion the margin. As a rule, however, this margin should not be secured by merely pasting the print on a card, which has always an unfinished look, but by the employment of a "cut-out" mount, which not only forms the margin but also trims the print.

And this brings me to the trimming, probably the most important of all operations, as of any dozen prints rarely will any two, if trimmed to best advantage, be exactly the same size. The photographer should therefore learn to make his own cut-outs, which after a little practice will be found easy enough, and so be able to secure for each the required size. And the best size for each print can only be found by careful study. Unaided ocular examination is not enough; it must be aided by actual trial. The simplest and most efficient way is to lay two wide pieces of L shaped card in opposite directions on the print and move them from side to side and up and down covering more and more and less and less of the image until the best has been reached, and then make the cut-out to that size. The card is cut thus,  overlapping on the print.

The next consideration is the color or shade of the mount, and that, too, should be settled by trial. Colored or tinted papers are plentiful and card is cheap, so that for a few cents one may have a stock of pieces of every color and shade likely to be required, and find them simply invaluable.

Prints intended for wall decoration may be treated as those for exhibition except, perhaps, in the matter of the frame. That may be of a better quality, and while its color should be suitable for the color of the print, it should also be in harmony with its surroundings and the general atmosphere of the room in which it is to hang. Fanciful frames or fanciful ornamentation is better avoided, and as richness is compatible with simplicity, the best frame is one that is forgotten in thinking of its contents.

The placing of the picture in or on the mount has, especially during recent times, been a much discussed question, and strange vagaries and eccentricities have appeared at some of the exhibitions; but, without

wishing to limit or discourage individuality, nothing tells better or even so well as the good old way of equal margins on top and sides and greater width to the extent perhaps of a half or more at the bottom. While those who think they have a "message" may continue to stick a small print in one of the corners of a large mount; or, while adhering to the time-honored place near the center, place under it half a dozen pieces of paper, each different in color and larger in size than its predecessor, simple people like ourselves had better stick to the good old style, comforting themselves with the assurance that pictures so mounted will continue to be admired when the erratic and eccentric will be forgotten.

In this connection it may not be out of place to say a few words as to the best means of mounting; when, for any purpose a large number of smallish prints are to be mounted on, say, the ordinary card mounts. Where trimming is necessary it should, for this method, be done as the prints come from the frame; that is, before washing, previous to toning, fixing, etc. When sufficiently washed after these operations they should be withdrawn from the last water one by one, slightly drained and laid in a pile face down on a sheet of glass, and as much as possible of the adhering water pressed out by the hands, one on the plate the other on the prints. The mountant may be well made starch or any of the commercial articles; and the necessary appliances are a stiff flat bristle brush, a piece of rubber cloth, rubber on one side and muslin on the other, a roller squeegee, and a pocket knife.

The mountant is well brushed over the print on the top of the pile, one corner raised by the point of the knife and held by the thumb and second finger of both hands, the index fingers stretched out so as to support and steady the two upper corners as they are laid on the mount. By an action easier found than described, the hands are moved toward the bottom so as to allow the print to come in contact with the mount from top to bottom without including air bubbles. The rubber, cloth side down, is then laid on the print and the roller squeegee applied first from center to top or bottom and *vice versa*, and then several times backwards and forwards.

As soon as surface dries the mounted prints are laid in a pile under a heavy weight—I employ six or eight volumes of the encyclopædia, where they dry without cockling.

Marl S. White says: "I am a subscriber to five photographic magazines and I really think I get more genuine information out of the AMERICAN AMATEUR PHOTOGRAPHER than any of the others. Of course, they all contain a few good pointers once in a while, but the AMERICAN AMATEUR PHOTOGRAPHER seems to contain them *all* the while.

STEREOSCOPIC PHOTOGRAPHY.

THERE are few things more interesting than really fine stereoscopic pictures (writes Mr. H. W. Hales, one of our valued correspondents), and it is surprising that more of the up-to-date amateurs do not take up this branch of work. What, for instance, is more beautiful and realistic than a well-made stereoscopic transparency on glass or celluloid? Even ordinary prints on paper, when properly taken, so "stand out" that they are a revelation to one who sees them for the first time.

It is not my intention to enter into the theory of stereoscopic photography; there are many good books on the subject, but I will give a hint from my own experience, which, if generally known, is not much practiced. If the beginner takes both near and distant views with the lenses of his stereoscopic camera, say 2 3-4 or 3 inches apart, he will notice that his near views take good stereographs while the distant



See letter on page 334.

"FIRST ATTEMPTS OF A NEW RECRUIT."

Clement Jacomini.

views fail to show the desired relief when viewed through the stereoscope. This is owing to the convergence in the angle of view, and in taking distant views the lenses should be moved farther apart, or, where this is not possible, one of the lenses should be capped while the view is being taken with the other; the camera is then moved an inch or more in the direction of the second lens, and the first lens capped while the same exposure is given as before. The procedure requires a board on the tripod top on which to slide the camera, and care must be taken not to jar the tripod or move the camera other than sideways. A rigid tripod is necessary. A board about a foot long, with a guiding strip nailed along the back and a socket for the tripod screw, is easily made, or may be purchased at the stores.

Such a contrivance may also be used for making stereoscopic negatives with an ordinary camera, such as a 3 1-2 x 3 1-2 Bull's Eye. In this case



H. W. Hales.

STEREOGRAPH WITH LENSES 3 INCHES APART.



Stereo Simplex.

FALLS AT PORTAGE, N. Y.



Stereo Simplex.

CONSERVATORY, BUFFALO, N. Y.



STEREOSCOPIC PICTURE ILLUSTRATING USE OF SIMPLEX.

the camera must be moved along the board three inches or more, according to the subject, after the first exposure has been made and a fresh film wound in position, which must get the same exposure as the first. To get the finest results the lenses should be about three inches apart for near views, and they may be separated four inches or more with advantage as the distance increases.

I have used for stereo work with the greatest satisfaction an old-fashioned straight bellows, 5x8 view camera. On this I constructed a double front board, sliding over each other so that I can adjust the lenses anywhere from three to five and a half inches apart. Some method of readjusting the separation of the lenses would enhance the value of every stereoscopic camera, and manufacturers should take the hint.



STEREO SIMPLEX.

reproduced herewith and may be studied under the stereoscope. The other prints were stereoscopically perfect, but did not make good copy for the engraver.

In this connection we also reproduce three stereographs sent us by the Thomsen Bros., of Buffalo, N. Y. These were made by means of the stereo simplex, a device which enables anyone to make stereoscopic negatives with any hand camera—plate or roll film. It is a brass plate with a socket for the tripod screw. Four parallel bars swing from side to side and support another plate and screw to which the camera is affixed. Simple and accurate, it will tend to popularize stereoscopic photography among the users of hand cameras, especially the roll film variety. We have arranged for an article dealing with the cutting, printing and mounting of stereographs, to appear in our next number.

Honor Portraits.—Mr. Lockett, in *The Teacher's Aid*, makes a suggestion that is well worth consideration. It is that in addition to the usual prizes and awards to the best pupils, the portrait—in platinum or carbon, of course—of a suitable size and suitably framed, of the best pupil in each class or section, or perhaps of the whole school during the year, should be hung on the wall of the principal room in the school. In time such a collection would become a roll of honor and a constant stimulus that could not fail to tell on the work of the pupils. A prize, even a first, is soon forgotten, but the honor of a place in such an array of the appreciated for cause would remain through life, and in many cases, when the successful boy had become the famous man, would be pointed to with pride by those that he had left behind.

THE MAKING OF A PERFECT NEGATIVE.

BY A. H. BAILEY.

WHILE it is true that the success of a picture is largely controlled by the exposure of the negative and by the selection or treatment of the printing medium, the fact must not be overlooked that these operations are largely influenced by the development and after treatment of the negative. A correctly exposed plate will, by straight development, yield a good negative, in any one of the various developers, but the same plate, skilfully handled, is capable of rendering different effects according to the skill of the operator. And it is effects that the pictorial worker is striving for; therefore, what matters to him a little more time spent over the developing tray; in the after printing it is regained, not to speak of the joy of a perfect negative which will yield a good print on any paper or make a perfect enlargement.

Developing.—Let us suppose that we have a plate exposed on a landscape consisting of foreground, figures in the middle distance, hills in the distance, and one-third sky. With ordinary development, all trace of clouds in the sky is lost, there is no effect of atmosphere, the distance, which has reflected stronger light, develops a mass of detail before the objects in the foreground, which have reflected less, show any detail in the shadows. Instead of developing this plate in a normal developer, let us use three trays; in one pour a portion of the normal developer, in another half the quantity diluted with an equal bulk of water, in the other the same quantity but diluted ten times. A fine sable brush and some absorbent cotton should also be at hand. Place the negative first in the weakest solution and rock around until the details of the picture show, which will take as many minutes as it would seconds in the normal developer. When the details are out dip a wad of the absorbent cotton in the half strength solution and go over the foreground, coaxing out the detail where it hangs back, repeating several times after returning the negative to the weak solution. The brush may now be dipped in the full strength solution and painted over any objects in which detail is lacking, being careful to keep the brush within bounds; next, with the cotton and half strength developer, go over the whole negative except the sky, immerse again in the weak solution and then transfer it to the half strength or even to the full strength, when the foreground and sky will take on the proper density. As soon as the sky is sufficiently dense, rinse off the developer, when, if the foreground is still weak, the cotton and strong solution may again be applied until the desired density is obtained.

This reads long, but is easily carried out in practice. With reasonable skill and a knowledge of what is required, the gain in definition, fullness of tone, and atmosphere, more than repays, while the negative is of such quality that it will lend itself to any printing process or make the most perfect enlargement.

Reduction.—A negative developed as above is seldom in need of after treatment, but, if through under-exposure, the high-lights become

too dense before the shadow detail is rendered, the best method of reduction is with persulphate of ammonia. Many who have tried this method claim that it is uncertain in its action and productive of stains. With due respect to their opinion, however, let it be understood that these failures are the result of negligence or ignorance of the requirements. In the first place the negative must be *thoroughly fixed* so that all unreduced silver is removed, and in the second place it must be *thoroughly washed* so that no trace of hypo remains in the film before it is placed in the persulphate bath. This must not be made too strong, at the most five per cent. A safe procedure is to make a rather weak solution, say four per cent. This is slightly alkaline, and although too weak for reducing, it possesses the quality of being a hypo eliminator, destroying any trace of hypo left in the film. Reduction is then completed in the same bath by rendering it acid by the addition, drop by drop, of a weak solution of sulphuric acid, the acidity and alkalinity being tested by litmus paper. With complete fixation and thorough washing it will be found that persulphate of ammonia will reduce evenly and perfectly and without stain.

Intensification.—While a negative that suffers from under-exposure is only rendered more fit for the ash barrel by intensification, one that is flat from over-exposure or thin from being too soon removed from the developer, may be greatly improved. In this, as with reduction, absolute cleanliness is essential and thorough elimination of all chemicals previously employed.

There are many methods of intensification, but that of bleaching the image with bichloride of mercury and afterwards blackening, with all its drawbacks, still continues to be the most popular. After the negative has been fixed and thoroughly freed from the hypo, it is laid in a saturated solution of bichloride of mercury until bleached through. It is then thoroughly washed. If only slight intensification is desired, blacken in a one-tenth solution of sulphite of soda, or for more density in a solution of iron oxalate, made as follows: To six parts of a saturated solution of potassium oxalate add one part of a saturated solution of iron protosulphate. (These must be mixed in the order named.) This method is probably the best as regards permanency and certainty of results and may be repeated over and over again, each time gaining in density. The most common method, however, and one which gives strong intensity, is to blacken the image with ammonia. If the ammonia is of full strength, 880, it should be diluted 1 in 30 and given plenty of time to act through. Used too strong it will dissolve away some of the silver and this is why some persons fail to get the proper density by this method. Another thing to remember is that the saturated solution of mercury, while it may be used over and over again, has to be frequently strengthened to make up for lost mercury and should be filtered. It should also be kept from the light as much as possible and in a colored glass bottle. The one fatal stumbling block in any of these processes is insufficient fixation and washing of the negative. If this is borne in mind and the worker knows for what he is striving, success is certain, while in careless hands the cure is worse than the disease.

PHOTOGRAPHERS' ASSOCIATION OF AMERICA.

This is the Last Call.

All aboard for the National Convention August 4, 5, 6, 7, at Indianapolis, Ind. The fellow that stays at home this year will regret it only once, and that will be forever.

A railroad rate of one and a third fare has been secured, making it easy for all to be on hand.

The following conditions must be observed:

FIRST. Each person must purchase, not more than three days prior to the date of the meeting (Sunday not to be counted a day), nor later than two days after the first day of the meeting (Sunday, in this case, to be counted a day), a first class ticket, either unlimited or limited, to the place of the meeting, for which he will pay the regular tariff fare of not less than 75 cents, and upon request the ticket agent will issue to him a standard certificate of such purchase **properly filled up and signed by said ticket agent.**

SECOND. If through ticket cannot be procured at the starting point, the person will purchase to the nearest point where such through ticket can be obtained, and there purchase through to place of meeting, requesting a standard certificate, properly filled out, by the agent at the point where each purchase is made.

THIRD. It is absolutely necessary that a certificate be procured, indicating that full fare of not less than 75 cents has been paid for the going journey. It likewise determines the route via which the ticket for return journey will be sold, and **without it no reduction will be made,** as the rules of the individual lines provide that "No refund of fare can be expected because of failure of the parties to obtain certificates."

FOURTH. It has been arranged that the special agent of the railways be in attendance August 5th and 6th at convention headquarters and on presentation of certificate he will issue ticket for return trip at one-third the regular fare.

This is, without doubt, going to be the best convention in the history of the P. A. of A.

Everything has been done to have a rousing meeting, and the entertainment features have been well looked after.

The H. Lieber Co. will start the ball rolling on the opening night with a grand reception concert in the club gardens, which will be the best thing ever attempted up to now. Be there on the first night to get the full benefit of the entire proceedings.

Many hotels have given us very reasonable rates and you will surely find something within your reach. Headquarters have been established at the new Claypool Hotel, one of the finest in this country, where we would like to see as many stop as possible.

It is up to you to help to keep the pace. So fall in line.

Fraternally yours,

GEO. G. HOLLOWAY,
Secy. P. A. of A.

NOTES.

Gelatine in the Developer.—The well-known A. L. Henderson, of London, at a recent meeting of the London and Provincial Photo. Association, speaking of the addition of certain mechanical restrainers to the developer, said that he had found that one grain of gelatine to the ounce "produced a negative cleaner, more brilliant, and altogether nicer than any ordinary developer, while at the same time it materially reduced the tendency to fog."

Rembrandt Printing Out Paper.—Herr Ferdinand Hrdliczka, of Zieglergasse, Vienna, has put on the market a paper with the above name, its peculiarity being that while it gives brilliantly beautiful prints from ordinary negatives, it gives prints almost equally fine from negatives so thin or weak as to be for ordinary papers altogether useless. The following is what *THE AMATEUR PHOTOGRAPHER* has to say of it:

"The new Rembrandt paper as received by the user is not white, but yellow, or deep orange, according to the number or grade of the paper, as will be explained below. The user must not therefore be dismayed when on opening the package the paper presents an appearance not unlike that of ordinary paper which has been kept so long as to be completely spoiled. The yellow or orange color of the Rembrandt paper is merely transitory, as all tinge completely disappears during the toning and fixing, leaving the unexposed parts brilliantly white. The Rembrandt paper is made in three grades, Nos. 1, 2, and 3; No. 1 being suitable for negatives which are only a little too thin or flat to give satisfactory prints, while No. 2 is suitable for such negatives as are more markedly flat. No. 3 is for negatives that are so faint or flat as to be unprintable on ordinary papers. The three grades, 1, 2, and 3, correspond to degrees of color-sensitizing, if we may apply this term to the new application of stain, and not to the texture of the surface; but either matt surface or high gloss may be had in each grade.

"Those who read the account we gave (January 29th, 1903, p. 86) of Sir Wm. Abney's experiments will remember that a screen of ruby and orange glasses combined was interposed in making a transparency on a gelatino-bromide plate, from a negative too thin to be printable in the usual way, and that in this case the time of exposure was increased more than a hundredfold by the use of the non-actinic screen. Looking at the new paper from this point of view, and regarding the orange stain as a color screen, it might perhaps be reasonably conjectured that the new paper must be extremely slow in printing. This, however, is certainly not the case, as in a few trial exposures we did not notice that the Rembrandt paper is in any degree slower than the usual printing out papers, and the fact that suitable coloration does not make the paper unduly slow in printing, was fully demonstrated by sensitometric experiments which were made some eight years ago by Herr Hrdliczka.

"Not only is the Rembrandt paper of value in making extremely thin negatives printable, but also in obtaining vigorous and brilliant prints from ordinary negatives; prints with a full scale of gradation. Scientific workers will appreciate this latter use, as it often happens that in printing from negatives which include a wide range (such negatives as spectroscopic negatives), there is a failure at one particular degree of the scale of tone. The Rembrandt paper puts a new power into the hands of the photographer, whether amateur or professional, and doubtless it will prove very serviceable to those who make prints for reproduction as process blocks.

"No special precautions or conditions are involved in the use of the new print, ordinary toning and fixing baths being employed, but the Rembrandt paper must be somewhat more "over-printed" than ordinary papers, as there is considerable brightening in the fixing bath."

Ultra-Violet Rays.—From the *Astro-Physical Journal* we learn that Professor R. W. Wood has at last succeeded in making a screen that will

transmit only the ultra-violet rays; and however natural the usual *chamber* query may seem the fact is worth recording.

The material nitroso-dimethyl-aniline, which is soluble in glycerine, ether, alcohol, carbon-bisulphide, and other fluids. Dark cobalt-blue glass coated with gelatine stained with the nitroso in conjunction with a thin sheet of Chance's signal green absorbs the whole of the visible spectrum and appears as opaque as a sheet of blackened cardboard, but is sufficiently transparent to the ultra-violet, the invisible end of the spectrum, to admit of the photographing of a sunlit landscape. And the effect is curious, there being neither shadow nor contrast except between objects that are white and those that are not. The effect indeed, is said to be very much like that resulting from a long exposure on a moonlit landscape. Wood's ultra-violet screen will be turned to account some day.

Iodine in the Developer.—M. Carteron tells the readers of *Ombres Lumiere* that a developer containing iodine does its work in one-fifth of the time required without it, that it gives "vigorous contrast" without hardness; and on bromide or other developing paper, for which it should be well diluted, fine blacks and perfectly pure whites. The iodine solution consists of iodine in scales, sixteen grains, potassium iodide, seventy-five grains, water eight ounces. One drop of this is added to each ounce of the developer. We have not tried it and have our doubts as to the speed claim.

Orthochrom T.—Meister, Lucius and Brünig have just placed on the market a new sensitizer for orthochromatizing silver bromide, under the name of Orthochrom T, which, they claim, renders plates sensitive to all three colors without reduction of speed or tendency to fog, and without change in keeping quality. Should the new sensitizer be all that is claimed, its price, two dollars and a half for fifteen grains, will not be grudged.

Long Focus Work.—The manufacturers, this year, send out their long focus cameras with convertible lenses, the front and back combinations of which are of different foci, thus giving one the advantage of three lenses in one. To use these intelligently, it must be borne in mind that the diaphragm numbers must be computed for each of the combinations. The original diaphragm is, however, too near to the lens when one-half only is to be used, admitting rays of light which are not required to form the image and consequently a flat negative is the result. To overcome this a set of caps should be made of leather, cardboard or metal to fit on the front of the lens tube and in these caps movable or fixed diaphragms placed, these being figured into the focal length of the combination and numbered accordingly. This is not merely a suggestion but is a necessity if much long focus work is done and sharp, clear negatives desired. When using the front combination it should be screwed into the back of the mount. When a long focus lens is used there is much light reflected from the inside of the camera on to the plate, another cause of flatness, and to circumvent this a diaphragm of blackened cardboard should be placed inside the camera, by being sprung

in between the folds of the bellows a short distance behind the lens. By cutting a small hole at first and then examining the image on the ground glass it may be increased in size and of square shape until it just cuts off all light that is not needed to cover the plate; the little trouble is well repaid in the increased brilliancy of the negative.

Varnish for Labels.—An annoyance from which the occasional worker often suffers is to find the labels which had been carefully attached to the bottles and put away for future use, dropping off or peeling up at the corners. This is especially apt to occur if the bottles have been kept either in a very warm, dry place, or in extreme dampness, and can be prevented if, after attaching the label, it is varnished with a thin solution of sodium silicate (about 30 or 40 per cent.), made up with hot water. This varnish may also be used to attach the label with, and not only serves to keep the label permanently on the bottle, but also to keep it clean and legible, as it may be wiped with a damp cloth at any time without injury.

Shocking Flashlight Accident.—Mr. Ernest H. Wilhelm, an enthusiastic amateur photographer, was instantly killed and his bride of a few months and others were seriously injured on May 29th while making a flashlight group in their apartments in this city. Mr. Wilhelm had already made one exposure and it is possible that he used an extra charge of powder to overcome the effect of the smoke in the room. The flashlight apparatus was a peculiar arrangement, consisting of two sticks fitted together like a capital letter "T." On the cross of the "T," in the centre, was a small tin box filled with burning alcohol. From this flame two pipes led to the outer ends of the cross, where in two other round tin boxes reposed two flashlight cartridges. To the iron pipe opposite the alcohol flame was fastened a rubber blow tube that was supposed to direct the flames each way through the small iron pipes leading to the cartridges. To operate this strange contrivance Wilhelm held it by the stem of the "T" and then blew through the rubber tube to explode the cartridges. Holding the "T" shaped instrument away from him he puffed his cheeks and blew through the tube. It was his last breath, for instantly both cartridges exploded, and the iron pipe was ripped from the cross of the "T." Piercing his chest it entered his lungs and caused instant death. It seems strange that so expert a photographer as Mr. Wilhelm should have miscalculated the force of the explosive. The more efficient a flash compound is, the higher its explosive power and it should never be ignited in a confined space, not even the lid of a box, but spread in a long train. The force of the explosion is therefore minimized, while the light area is increased. We record the sad occurrence as a warning to others.

Print Interchange.—As requested by several subscribers, we will organize a print interchange if sufficient members will come forward. Such an interchange should be very useful and we will gladly publish the notices of our readers free until the interchange is sufficiently advanced to publish its own bulletin. Let us have your notice for next month, and a word from every one who would like to join.

COLLODIO-CHLORIDE EMULSION FOR TRANSPARENCIES.

FROM the very earliest days of the collodio-chloride process it has been the custom to speak of it as an admirable method of making transparencies, and yet how seldom do we see any results produced in this manner. The ordinary print-out emulsion is now referred to, as, if an emulsion for development be required, one of silver bromide is infinitely to be preferred.

The reason why collodio-chloride transparencies are so seldom met with is no doubt to be found in the fact, that the emulsion as usually compounded is anything but suited to use on glass or to the formation of a smooth, structureless film when viewed by transmitted light. In the first place, the large amount of crystalline matter it contains is against its drying evenly on the non-absorptive glass surface, or, if it be dried with a semblance of evenness, retaining that evenness for very long, owing to the tendency of the different salts it contains, some to crystallize, some to deliquesce, and all to interfere materially with the smoothness of the film. Add to this, that the excess of acid, sometimes unnecessarily large, used for the double purpose of giving vigor to the image and keeping qualities to the emulsion, exercises a specially injurious action on the collodion, rendering it thick and viscid, with a tendency to flow in ridges, and to dry in much the same state in too painfully visible crapy lines.

Another point that may perhaps have some bearing on the matter, though it does not directly affect the quality of result, is the character of the chloride used in making the emulsion. On account of their easy solubility in alcohol, and for other reasons, certain chlorides, such as those of calcium, barium, and zinc, are often used, and these, although they may not at once confer any bad qualities on the emulsion, will sooner or later cause it to clot together and lose its fluency and eventually become solid. Unless, therefore, a quantity of emulsion is to be used up at once, the greater part of it becomes useless, which is naturally not a recommendation in favor of the process.

In making an emulsion, therefore, specially for transparency purposes, we should endeavor to steer clear of these difficulties, and, in fact, in every way work in the direction of a preparation that will adapt itself to the exigencies of the glass. But perhaps the first point to be considered is the pyroxyline, for without a suitable sample of this all further efforts are without avail. The best sort for collodio-chloride is a very soluble sample, and, such being obtained, the first step should be to ascertain how large a quantity can safely be used without causing a crapy and unsightly film. One great fault is that too small a quantity of cotton is too often used, which, though it gives a smooth and easy-flowing emulsion, and one quite suitable for paper, is too thin both to hold the salts without crystallizing and to give the density necessary in a transparency. Therefore, ascertain, first of all, the maximum quantity of cotton the collodion will bear. This should, with a good soluble sample, be not less than nine or ten grains to the ounce.

The following formula by W. B. Bolton, in the *British Journal of*

Photography, is one that has given very good results, both on glass and on paper, flows and dries well, and keeps for some months without becoming thick:

Pyroxyline	100 to 120 grains
Ether, methylated (.720).....	5 ounces.
Absolute alcohol.....	5 "
Chloride of sodium	15 grains
Citric acid.....	20 "
Nitrate of silver.....	90 "

Dissolve the cotton in the ether and three ounces of the alcohol, reserving two ounces of the latter for the solution of the salts. When the cotton is dissolved, add the citric acid in crystals, or it may be dissolved before making the collodion in the three ounces of alcohol. When dissolved, the silver may be added. This is first dissolved in about forty minims of water by boiling in a test tube, and one ounce of alcohol gradually added, warming it to prevent precipitation of the silver. Pour this a little at a time into the collodion, and shake well after each addition; this will produce a white milky emulsion, partly from formation of citrate of silver and partly from precipitation of the nitrate in minute crystals. Next dissolve the chloride of sodium in the same quantity of water, carefully washing out the test tube first, and add the remaining ounce of alcohol; pour in in the same manner as the silver, and shake vigorously for two or three minutes, and afterwards at intervals. In an hour's time the emulsion may be filtered through a piece of clean calico or linen, and is ready for use, but it will be better in a few hours' time.

Chloride of lithium, in the proportion of ten grains instead of fifteen, may be used instead of the sodium salt, though the latter is to be preferred if absolute alcohol and .720 ether can be obtained. If not, the lithium salt, being easily soluble with the aid of water, saves the addition of the second forty minims, and thus improves the flowing qualities of the preparation. If the image prints too red in color, two or three drops of strong ammonia may be added, and thoroughly well shaken.

Collodio-chloride on glass is very difficult to work without a substratum, owing to the strong tendency to peel off. The substratum may consist of a plain solution of gelatine, three grains to the ounce, poured on the glass warm, drained, and allowed to dry in a place free from dust. In addition to causing the film to adhere firmly during washing, toning, and fixing, the substratum also helps, by absorbing the crystalline matter, to prevent crystallization and unevenness in drying.

Glass plates should, however, never be prepared before hand, as, owing to the hygroscopic nature of the matter contained in the film, it is impossible to avoid deliquescence and crystallization unless they be hermetically sealed. It is an easy matter, however, to coat the glass at the time of use, and, if dried by heat and the negative also warmed, no trouble need be feared from any of the causes of unevenness. The transparencies should be toned and fixed as soon as possible after printing. Any of the usual toning baths will answer, acetate, phosphate, or tungstate giving the best results.

SEPIA TONES ON GASLIGHT PAPERS.

BY CLARENCE PONTING.

AS the number of amateur photographers who use gaslight papers is on the increase, a few words, showing how sepia and other colors can be easily obtained on these papers, may prove acceptable.

The first method of obtaining warm tones is the "direct" or "development" method. That is to say, the color is got by development, and not by toning the black print.

For this method it will be necessary to make up the following solution, which is to be used in conjunction with the Ilford Metol-Hydroquinone Developer:

A.	
Ammonium carbonate	1 oz.
" bromide	1 "
Water to	20 "

To obtain warm tones the exposure will have to be greatly prolonged, and a developer composed as below must be used.

For cool to warm sepia, give about five to six times the exposure that was required for black. Developer:

Metol-Hydroquinone (Ilford formula).....	1 oz.
A Solution	1 drachm.
Water to make	3 oz.

Development will be rather slow, and it will be found advisable not to have too strong a light, as there is a slight risk of fogging the paper.

More of A solution and a longer exposure tend to give red tones, if they are desired, but they are rather more difficult and uncertain to obtain.

The next method is the "indirect," or coloring the finished print by any of the following toning baths, and it may be as well, while on the subject of toning, to say that some very pleasing browns and reds can be obtained by the "Tabloid" Copper Ferrocyanide Toning Bath, issued by Burroughs, Wellcome & Co. For really good browns, however, the old sulphur toning bath is far the best.

A bath is made up of the following:

Hypo	10 oz.
Alum	1 "
Water.	50 "

The prints should be somewhat overprinted, as this bath, when newly made up, has a slightly reducing action. Place the prints in the solution, cold, for at least ten minutes, then remove them, and pour the solution into a lined saucepan, and put it on the fire till the liquid becomes too hot for the hand to bear comfortably.

The solution should not be boiling, or the prints will have an unpleasant washed-out appearance. The prints are next dropped into the hot solution, and allowed to stay for about ten minutes, when they should have changed from the cold black tone to a charming sepia.

If the tone is not warm enough, the solution should be re-heated and

the prints immersed again. For most pictures one heating will be found quite sufficient.

The prints should be thoroughly washed, and their surfaces carefully wiped with a wad of wet cotton-wool, to remove any deposit that may have settled on them during the process of toning.—*Photographic Scraps*.

THE WET COLLODION PROCESS.

(A Paper read before the London and Provincial Photo Association.)

IN this process the operator starts with a glass plate, which is made chemically clean by polishing with a chamois leather, or by coating with a substratum of albumen or of gelatine.

The plate is now coated with collodion which has been "iodized," i.e., various iodides and bromides have been dissolved in it. The operation of coating the plate results in a very thin film of collodion being left upon it. This film sets at once. The plate is next placed in a solution of silver nitrate, and in the course of three or four minutes the film is sensitized, i.e., the iodo-bromide salts are converted into iodo-bromide of silver, with a certain amount of silver nitrate on the surface.

The plate is now ready for exposure.

After exposure the plate is held in the fingers and flooded with a solution of sulphate of iron and acetic acid, which at once brings out the image. When the image is fully developed the plate is thoroughly washed, is flooded with just sufficient of a solution of pyro and citric acid to cover it; this is poured into a small cup; two or three drops of a silver solution are added; and the negative intensified by pouring this mixture on and off until the density is sufficient; again wash, and fix by immersing in, or pouring over, a solution of cyanide of potassium. Another wash, and the negative is done.

To work the wet collodion process we require—

Glass plates;

Collodion;

Nitrate of silver bath, and holder;

Iron developer and a developing cup;

Intensifying solution (pyrogalllic acid and citric acid);

Fixing solution (cyanide of potassium).

Glass Plates.—These must be made chemically clean, and must be of good quality to enable this to be done. In the early days of the process, glass plates were always prepared for use by polishing with chamois leather or silk cloth, but nowadays most workers coat the plates, after well cleaning in an acid bath with a substratum of either albumen or of gelatine, this substratum reducing the labor of cleaning the plates very much, and also preventing the film from slipping off the plate in the final operations. Collodion was usually purchased from one or more of the various makers, some operators favoring, say, Thomas's collodion, others Mawson's, others, again, preferred Huggon's; whilst another lot could only get on by mixing two together; thus, Mawson and Thomas, or Mawson and Huggon. There were other makers of collodion; but the three named had the largest sale.

Because collodion was a commercial article it might be inferred that it was difficult to make, but that is not so. Given the pyroxyline, which, was, and is, a commercial article, collodion is just as easy to make as any other photographic solution; but to have collodion in suitable photographic condition, time was a very great factor of success.

Dissolve pyroxyline in a mixture of ether and alcohol and the collodion was there, but before it was fit for use the muddy-looking solution must be clear and bright, and that clearing could only be effected by standing long enough for the fine insoluble portions of the pyroxyline to settle down; filtering is of no use for this purpose. Mr. A. Haddon says that this fine deposit is that of silica from the cotton. Hence for the really small quantities used by even a busy photographer it paid better to buy than to make. In buying a pound of collodion or a Winchester two bottles were obtained, one containing the plain collodion, the other the iodizing solution, so that photographers mixed the two together, and so knew exactly the age of it, newly iodized collodion working quicker and giving thinner images than collodion iodized a long time.

Some collodions ripened rapidly and deteriorated just as quickly. Others, again, required three to five days after iodizing before the collodion was fit for use; but such a collodion would keep in good condition for weeks.

Nowadays the wet collodion process is used only for process work, and most operators I know make their own collodion, using Schering's celloidin instead of gun-cotton, and, in spite of what has often been put forward as impossible, they use methylated solvents, and find no trouble arise from their use. One friend makes and uses from 50 to 60 gallons a year, and I am going to use some of it here to-night.

The Silver Bath—This is the most important part of a wet-collodion operator's solutions, and has been the cause of more worry and profanity than all the other solutions put together; yet its constitution is simple enough:—35 grains nitrate of silver; water, 1 oz. That is all; but quite enough at times to make the operator wonder if cyanide tasted as nasty as it smelt.

To make a silver bath that would work well from the beginning, and keep working well for some time, dissolve 6 oz. of nitrate in 20 oz. of tap water (avoid distilled water and rain water like the plague); when dissolved add 1-2 dram of iodized collodion. Shake up well, then in Winchester, put 60 oz. of tap water, and pour the silver solution slowly into it; mix well, and put the bottle in the sun until the solution is clear and bright. The light will have thrown down all the organic matter in the water, and the result will be a pure solution of silver nitrate in pure water, plus a sufficient quantity of iodo-bromide of silver in solution to prevent the silver attacking the collodion film. Filter the solution into a clean bottle, using a clean funnel, and either cotton or glass wool. Add sufficient nitric acid to react upon blue litmus paper (fresh); let it stand all night; then go ahead.

The Developer.—This is composed of—

Protosulphate of iron.	1 oz.
Acetic acid.....	1 oz.
Water.	20 oz.

When the silver bath is new, no other addition is necessary; but after a little time the developer will not flow over the plate so readily; then the addition of a little methylated spirit is requisite.

Intensifier—No. 1.

Pyrogallic acid	30 grains.
Citric acid	20 grains.
Water.	10 oz.

No. 2.

Nitrate of silver	20 grains.
Water.	1 oz.

For fixing nothing is so good as a 10-grain solution of cyanide of potassium. Varnish the negative with a good hard varnish.

The foregoing is merely a brief description of the wet-plate process, but I have now something to say about a modification of my own which I think is new.

The other day I had been making some negatives with collodio-bromide emulsion, and when I had two other negatives to make, my supply of sensitized emulsion ran out, and as I did not care to mix another lot, most of which would probably be wasted, I got to thinking a bit, and suddenly an idea came to me. In the course of the next few days I thought the matter out, and got the things together, and in due course tried the idea, and the first plate was a success. So far as I know, the method is quite new, but upon that point I expect to be very speedily put right. Here is the process:

A 2 per cent. collodion made with Schering's cellulose 500 c.c.

Zinc bromide. 5 grammes.

Dissolve, and let it stand at least a week. Then decant.

Dissolve, and let it stand at least a week. Then decant.

Silver bath..... 20 grammes.

Water. 250 c.c.

The plate is coated with the collodion as usual, and sensitized; then, when sensitized—which takes about five minutes—the plate is drained, and placed in—

Erythrosine, 1 in 100 25 c.c.

Water (distilled). 100 c.c.

Liquor Ammonia, .880..... 2 c.c.

Here it remains for two or three minutes, or until the surface no longer looks greasy; remove, drain, and expose.

After exposure, wash under tap for a minute or two; then develop. I use ortol and potass. carbonate.

The speed is about 100 **H.** and **D.**, the development proceeds almost as quickly as a wet plate does under the iron developer, and the density is good, with clear shadows.

Whilst writing the above it has occurred to me that if a collodio-bromide emulsion be made with a little free silver present, by using the dye bath the tedious operation of washing the emulsion could be avoided, but I have no inclination to try if the idea is practical, being quite satisfied with the bath process. Of course other dyes may be used, so that the process may be utilized for three-color negatives.—**W. T. WILKINSON**, in *British Journal of Photography*.

THE PHOTOGRAPHIC REGISTRATION OF TONES IN THEIR DUE RATIO.

Read Before the Photographic Society of Philadelphia.

By CHARLES TRUSCOTT.

“THE Road to Perfection” is long and sometimes arduous, especially to those who are in a hurry, but to those who do not expect to quite catch up with their ideals and are content to take one step at a time (and sometimes even to turn back and make a fresh start) the traveling is fairly good. The perfecting or mastering of a process or machine cannot be done in a day or even a year. We should not be discouraged permanently but keep pushing on, satisfied if some progress is made each day, however little, feeling assured that some measure of success will be ours.

The camera is undoubtedly an instrument of precision, and no draughtsman however gifted can ever hope to begin to approach it in accuracy of drawing, correctness of perspective, or ability to delineate detail. When, however, it comes to the registration of color and tone values, photographic processes are not nearly as perfect.

In proof of this statement let me call your attention to one or two points. You are all familiar with the fact that a photograph of a photograph is never quite equal to the original; we recognize it at once as “a copy.” Now if the chemical side of photography were as perfect as the optical this would not be. We should be able to copy a copy of a copy many times, and the last ought to be as good as the first. But we know it never is. There will be a slight loss each time and the sum of these losses would be appalling. This loss is most evident in the lightest tones which we call the “high lights.” That is to say, the highest light and the next highest light are rendered the same in value and the distinction between the two is lost and we recognize it at once as “a copy.” No matter how carefully the copy is made there is always some evidence of this flattening or degrading of the high lights.

This being a matter of first importance I have thought it worth while investigating this serious defect and also of bringing the subject to your attention.

In the first place let it be observed that this defect is common alike to both wet and dry plates, to collodion and gelatine, that it is decreased by a minimum exposure and increased by a maximum exposure, that a fully printed print from a soft negative will copy with less flattening of the high lights than a rather light print from a strong negative.

This fault appears to arise from two causes, first the near approach to the saturation or solarization point in the negative, and second, the incapacity of the printing processes to register the lighter tones correctly, and I find this latter cause occasions much the greater loss.

Several years ago the speaker had occasion to need a screen of tones in accurately graded ratio, each tone or tint to be of a decided and distinct difference from its neighbor. What more natural than to wish to

make such a screen by photography? The ratio found to answer the purpose was an increase of each step or tone of 50 per cent., and for some reason not now apparent he decided on 20 steps or tones; but it is one thing to decide on what you want and quite another to obtain it. Nothing of the kind was purchasable, so it had to be made—but how? Well, it seems a very simple matter to take a sensitive plate or a piece of sensitive paper and expose to a constant light different parts of the surface for any proportionate time desired.

What could be more simple? I do not know if any of my audience have experimented in this direction. If they have they will have found that when we get about ten tints or steps we have reached the limit of the registering capacity of every printing out or developing paper or plate known to photography, and have only one-sixtieth of the capacity necessary to register the twenty tints desired. We will also find that the tints both at the dark and light end are incorrectly registered.

There is, however, one sensitive surface that is neither a developing or printing out material which is not only equal to the occasion, that will not only register correctly all the hundreds of octaves necessary for this purpose, but the speaker has not as yet been able to reach the limit, although he has exposed a whole day of continuous sunshine. The sensitive material referred to is bichromated gelatine—the only sensitive material that cannot be solarized—the only material which appears to have no limit to its capacity for registering tones correctly and giving, when combined with pigment, a correct register of all the tones in the negative.

The screen referred to is now exhibited for the first time in public, although made more than twenty years ago. The exposure of the darkest tone was more than three thousand times that of the light tone. A positive made from this negative is also shown, the light tints of it being of course printed from the dark tints of the negative, and yet placed side by side you cannot tell one from the other. The perfection of this screen is simply marvellous.

Another unique screen is also shown, consisting of 440 squares, which was made by transferring two of the above positives to glass and mounting them at right angles to each other. This screen could be used to register a month's continuous sunshine.

This ability of bichromated gelatine to register tones in correct relation to an unlimited extent having been known to us very many years, it is rather surprising it was not turned to account long ago.

Pondering on this subject about a year ago, and by a pure process of reason, it became apparent (we refer, of course, to the speaker) that the best methods of making enlarged negatives known to the text books did not include the use of this perfect process in a way to secure the most perfect results.

If you wish to reproduce a negative the size of the original and want a negative equal to the original, you should by all means make a contact positive on pigmented gelatine and the negative in the same manner from the positive, no dry plate or wet plate being used in either case, and the probability is that if this process were repeated a thousand times,

the last negative as far as the accurate registration of tones is concerned, would be equal to the original.

But suppose we are required to make the most perfect enlarged negative from a small one by a pure photographic process that it is possible to make, how will we proceed? It pays to plan all work before we begin; sometimes the work is half done when well planned.

It is evident either the positive or the negative must be made in the camera, and as bichromated gelatine is much too insensitive for use in the camera, it follows that only one can be made by this perfect process. The important question now to be decided is, which one? The authorities all tell you to make a contact positive on transparency tissue. Let us see if this is the best procedure. As the high light and delicate tones are the most valuable parts especially of a portrait negative and the part where the greatest loss always occurs, and as we have seen the dry and wet plate are both incapable of rendering the lighter and therefore more fully exposed portions, it would appear that by all means where they cannot be both so made, the negative and not the positive should be made on pigmented gelatine.

If you do not by this process obtain a reproduced negative equal in all respects to the original, and that too without any retouching of the high lights, you may rest assured that the fault is with you rather than with the process.

The same principle applies also to the making of the print. There is only one printing process which is capable of giving all that is in the negative without any loss whatever, and that is this same pigmented gelatine, commonly called the carbon process, which is at once the most facile, beautiful, permanent and perfect process known to the photographer at the present time.

[We can bear testimony to the gradation giving power of carbon tissue having employed as an actinometer a plate of glass with forty steps each 50% greater in density than its predecessor since 1868 when it was given to us by the Autotype Company.—Eds.]

THE CORRECTION OF DISTORTION.

A paper read before the Edinburgh (Scotland) Photographic Society.

By J. LUDOR CUNDULL.

AT a recent exhibition of the lantern slides of the members of a not unknown society, I was struck by the number of pictures that were distorted, *i. e.*, appeared in a form on the screen that the objects photographed do not show naturally. This defect appears to be on the increase, and seems to be partly due to the greater use of the hand camera, which, though possessing the great advantages of portability and power of taking advantage of those momentary opportunities of making or losing a picture, has the disadvantage that it is not always easy to hold horizontally, and is usually equipped with a rather short focus lens.

If the user of a hand camera holds it in the usual position and horizontal, which is by no means easy, even with a spirit-level beside

the finder, he gets an image in which there is usually an excess of foreground, whilst high objects and the sky are either absent or crowded up to the top of the picture. This defect can be considerably reduced by holding the camera at eye level and using a direct vision-finder, which has the advantage of giving a more natural view of near objects, but does not go far enough unless one elevates oneself to the level of a first-floor window, which is not always possible, and then, though the foreground difficulty disappears, the picture is from an unusual point of view—*e. g.*, one sees the top of a man's hat instead of his face. In a stand camera the trouble is remedied by the rising front, by which the lens is raised with regard to the plate; but few hand cameras possess this adjustment, and in most cases are better without it, as the less complicated they are the more likely are they to be used advantageously, as their use is less deliberate than that of the stand camera. Again, with the rising front the lens must be stopped down or able to cover a larger plate than that ordinarily used, or loss of definition, even cutting off of the corner of the picture, will result.

If the photographer, so to speak, seizes the bull by the horns, and points his camera up, so that the object he wishes to take composes satisfactorily, he discovers, though probably not till he has developed his plate, as the usual finder is too small to show it, that the vertical lines of his picture appear to be tumbling in towards the centre. The reason of this is that the rays of light from the bottom of the object have to travel proportionately farther after passing the lens than those from the top, and so diverge wider, giving a conical shape to an otherwise parallel-sided object.

This is got over in the stand camera by the swingback, by which, whatever the position of the lens, the plate is kept vertical, and thus parallel to vertical objects, so that triangles formed by the converging lines from the object to the lens are similar to those from the lens to the picture, and hence distances between points or any part of the plate are strictly proportional distances between the same points on the object.

At the same time, however, to effect this the top of the plate has to be brought much nearer to the lens than probably the depth of focus of the latter will allow; refocusing becomes necessary, probably also stopping down to get reasonable sharpness. This focusing practically puts the swingback out of the question for all scale-set hand cameras, even if the stopping down did not make exposure too long for hand support.

From these considerations distortion caused by the inclined plate must always be a difficulty to the hand-camera worker with subjects containing vertical lines, unless some other method of coping with the evil is available. This is fortunately the case, though the panacea about to be described does not seem to be much used.

It is well-known that if the distorted image is projected on a suitably inclined screen the rays of light from the portions of the image that are too close together will have farther to travel, and so diverge wider than those parts that are too wide apart, thus making the distorted vertical lines once more parallel. The same result is, of course, obtained by inclining the negative instead of the screen. The difficulty, however, of getting focus all over with this method of correction is the same as with the swing-

back in the taking camera, but a small stop may be used, as any required time of exposure can be given. Even this trouble can be avoided, greater distortions corrected, and sharper focus obtained by inclining the screen as well as the negative, but in opposite directions. The inclination in either case need only be the half of what was formerly required, and the image will be sharp all over, even with large aperture, as may be seen from the following consideration.

Imagine the distorted image placed with its converging lines downwards, and let the top of the negative be inclined away from the lens. Incline the top of the screen also away from the lens. Then the nearer end of the converging lines being closer to the lens will not only subtend a greater angle than the same length at the farther away part of the plate, but will also be represented farther apart on the screen, as they have to travel farther beyond the lens. Besides this the rays coming from the less distance will be brought to a focus farther off than those coming from the more distant parts of the negative which come to a focus nearer. Now this is just how the screen is inclined, and so correction is achieved without loss of definition, even with a large stop in the lens.

Enlarging cameras are not as a rule fitted with swings at both ends, but these can be arranged with a little ingenuity, with the gain that the photographer can set out with an instrument untrammelled with complications and with the knowledge that he can incline his plate as much as he pleases, and yet get a lantern slide or picture of any dimensions free from distortion.

Added to this he can reduce to a great extent that form of distortion or unpleasant perspective inherent in the lenses of short focus used close to the object photographed, for he can expand one end of his picture with regard to the other, and thus produce a more pleasing or pictorial effect. Improvement in this latter respect is only practicable where the near objects are at one side or end of the plate and distant at the other, and show to a marked extent if they are some distance apart on the plate. If the near object is central, though the picture might be improved by looking at its reflection in a curved mirror its permanent correction by photography would be too troublesome to be practicable. As regards those kinds of distortion due to the imperfection of lenses, it is possible to correct them by methods adapted to the particular defect, provided that the material is present in the photograph. Thus whilst barrel or cushion shaped distortion can be amended in the enlarging camera by using the lens in fault and reversing the position of the stop, when the cushion-shaped picture will be distorted barrel-wise into rectilinearity and *vice versa*; on the other hand, faults in lens or manipulation producing blurring cannot be afterwards corrected.

Finally, if the photographer, or indeed any one, will but consider the causes that have led to his failures, he will be far farther on the road to avoiding them in future than if he seeks other people's advice or tries to remedy them haphazard.

I had more help from the pages of your magazine than from all other sources and periodicals combined.—CLEMENT JACOMINI.

PHOTOGRAPHY BY FLASHLIGHT.

By J. C. BROOKS.

TO make a picture by flashlight is easier than many suppose who have not tried it, and it is advisable that every photographer should master the details.

One great advantage that flashlight photography has, which is not to be found in daylight work, is that, under proper conditions, it is practically instantaneous, which makes possible the portrayal of child life and other subjects, surrounded by natural conditions, which in ordinary daylight is not easily possible. Another advantage consists in the fact that weather conditions do not enter into account in the least, and as good results may be obtained on a dark night while a raging storm is going on without, as in the finest of weather.

In all flashlight photography the lens is worked with a large diaphragm only sufficiently stopped down to insure sharpness over the entire plate, and focusing may be accomplished by means of the lamp or gas light in ordinary use, or if the subject is dimly seen on the ground glass a lighted candle may be placed with the subject at the same distance from the lens as the principal point of focus and the camera focused on that, after which it should, of course, be removed.

Many have the idea that the room in which a flashlight is to be made should be wholly dark, but this is not necessary, nor is it advisable, for in cases where this course has been followed the writer has never seen a single photograph in which the eyes of the subject or subjects pictured did not have a very unnatural and ghastly stare, due, of course, to the fact that, in the absence of light the attempt to watch the operator caused a wide distension of the pupils which was caught by the camera and flashlight before it had time to change. On this account it is always best to have the room lighted (somewhat dimly, to be sure) during the entire exposure and preliminaries. A very good way is to arrange the subject or group about as desired and focus in the full light of the gas or lamps, and, when all is ready, to turn down all but one or two burners, which may be left burning quite brightly. Care must be exercised, however, that none of these lights are in front of the lens or where their light may be reflected into it by mirrors. For a single subject or a small group, one flashlight cartridge will generally be found enough to give a well timed plate, though it must be borne in mind that dark draperies and surroundings will require a larger amount of powder than light colors, and also that the further distant from the subject the weaker will be the illumination. A distance of 6 to 8 feet from the sitter is about right, and the powder must be so placed that its light cannot enter or reflect into the lens; it should, therefore, be at the right or left of the camera and a little behind it. It should also be somewhat higher than the lens for almost all kinds of portrait work, so that its light may come from above rather than from below—a step-ladder, on which may be placed a tin plate

or the dust pan containing the powder or cartridge, will be found to work very well.

In work of this kind it is also well to avoid very light backgrounds closely behind the sitter, as when they are so arranged a strong shadow is apt to be thrown, which is not pleasant in the finished print. This shadow may be avoided, however, in small groups, and always should be eliminated from larger ones, by using two flashlights instead of one; but in such a case the amount of powder burned should not be the same in each charge. One charge should be at least twice or three times as heavy as the other, and the lighter charge should be placed somewhat further away from the camera, laterally, than the heavy one.

The effect of this will be to illuminate the shadows and bring out detail without producing a flat lighting or cross shadows, as will happen if both lights are of the same strength and occupy relatively similar positions. After the group has been arranged and the lights placed in position and the slide drawn from the plate holder (the lens remaining covered, of course), it is only necessary to first uncap or open the lens and at the same time discharge the powder. The room being only dimly lighted from behind the lens, no effect is produced upon the plate by the light which enters, except that of the flash which does its work so quickly as to be practically instantaneous. The lens, however, must be capped or the shutter closed as soon as the flash powder has exploded, or the plate will be fogged.

If more than one flashlight is used, both must be fired at the same instant, or movement will be visible in the negative, each light making a record of what was before the lens when it exploded. Numerous forms of flash lamps and apparatus for firing them are to be had, and where two are used some mechanical device is necessary to insure simultaneous ignition.

The main things to be remembered in flashlight photography are: that the nearer to the sitter or the larger the charge of powder, the stronger is the illumination; also, that the nearer the light the harsher are the shadows; that dark draperies and surroundings require a greater amount of powder than light colors; that the background should be as far removed from the sitter as possible; that the room should be dimly lighted during exposure, but from burners behind and out of range of the lens; that if more than one flash is used, they should be discharged simultaneously, and that they, too, must be behind the lens, and, finally, that the lens should be opened just before the flash and closed immediately thereafter.

Negatives made in this way require careful development and the same subsequent handling as ordinary daylight negatives, and make possible a fund of enjoyment which only those who have experimented can appreciate.

Tell your friends of the many good points in the American Amateur Photographer and induce them to become subscribers.

NOTES AND QUERIES.

Rodinal.

Professor J. Kramering, Czernowicz, Austria, says, "Rodinal is such an excellent preparation that I cannot praise it too highly. Although having experimented with many developers, I was always a staunch believer in Ferrous Oxalate for plates and Stolze's Bromide papers. I was loth to change until, out of curiosity, I sent for a half litre bottle of Rodinal, and it was but a short time when I became aware of its great advantages.

"As long as there is chemical action and reaction it is obviously essential to banish the use of hard water in connection with developers, otherwise it is compulsory to frequently replenish with fresh water.

"This is entirely different with Rodinal.

"As Rodinal contains only traces of Carbonic Alkalies, distilled water is not essential for the dilution. Boiled or rain water is preferable when convenient, but ordinary tap or well water answers quite satisfactorily. The simplicity of this developer is remarkable; all that is necessary is the addition of 20 to 50 ounces of water to one ounce of Rodinal. The exact amount of water depending upon the season and the purpose. When required, a small amount of Bromide (10% solution) may be added.

"If used in developing plates and films, this developer can be renewed by the addition of about 10% of a solution of Sodium Sulphite. Label a bottle, 'Stock Solution,' fill it to the neck and close with a rubber stopper.

"Irrespective of the fact that it is very economical to work with Rodinal, it certainly makes itself very acceptable, eliminating, as it does to a great extent, all the objectionable features of weighing, measuring and mixing; at the same time obtaining as good, if not better results. I have therefore definitely discarded the use of other developers.

"Last summer I developed, in the above proportions, 300 plates, with beautiful results; also 50 large (30-40 ctm.) Stolze's Bromide papers, obtaining exquisite, black-gray, black and black-blue tones. I must advise every one to use this wonderful offspring of Paramidophenol—Rodinal.

Pyro-Ammonia Developer.

We have been asked for a good formula for pyro-ammonia development. The following will be found satisfactory, and allows of great latitude in results by varying the proportions to suit the exposure. The normal bath is:

A

Pyro. 1 ounce
Citric Acid. 40 grains
Water..... 7½ oz.

B

Bromide of Potassium. 120 grains.
Ammonia, 880..... 1 ounce
Water..... 7 ounces

For use, take equal portions of A and B and dilute with six times its bulk of water.

Direct Positives in the Camera.

A correspondent asks how these can be made, and we give the following for what it is worth, but not having tried it we can not vouch for the brilliancy of the results:

Expose the plate in the usual manner. Develop with:

No. 1.

Sulphite of soda (crystals) .. 3 ounces.
Eikonogen..... 1 ounce.
Hot water 45 ounces.

No. 2.

Sal soda. 4 ounces.
Water..... 15 "

To develop take of:

No. 1 3 ounces
No. 2 1 ounce.

When the negative is almost developed expose it to daylight, keeping it well covered with developer. In about thirty seconds you will see the change from negative to positive. Wash and fix in the usual manner and you will have a well-defined positive.

To Prepare Photographs for Painting.

Painting photographs with a glossy surface, such as albumen or ordinary gelatino-chloride prints, is a matter of some difficulty; if water colors be used the difficulty may be overcome by wetting the brush, instead of with water, with the following solution: Albumen six drams, water and glycerine one and a half drams each, ammonium carbonate fifteen grains, ammonia one

drop. If oil colors are to be used, it is a good plan to coat the print with a mixture of gelatine and gum arabic before applying the colors. Many use weak fish glue solution also, preserved with formalin.

Metol-Hydro Developer.

The following metol-hydro developer, in two solutions, will keep a long time and is excellent for short exposures:

	1	
Metol	50 grs.	10 g.
Hydroquinone.....	40 grs.	8 g.
Potassium metabisulphite.....	1/2 oz.	50 g.
Distilled water to....	10 ozs.	1,000 cc.

	2	
Sodium Carbonate....	2 ozs.	100 g.
Distilled water to....	10 ozs.	1,000 cc.

For use, mix in equal parts. Bromide should not be used for short exposures. If required, add 1/2 gr. to every ounce of the mixed developer.

OUR PORTFOLIO.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y. During July and August to Point O'Woods, Long Island.

1615. **John Hulshart.**—"Milo Wilkes," from the Windsor Stock Farm, Farmingdale, N. J., is a fairly good photograph as far as it goes; but it does not go far enough, nor has it been posed so as to show the points especially looked for in a "blood" or any other kind of horse. We are not an expert in matters equine, and cannot say just what the "points are" nor how to pose as best to show them, but it is never right to photograph a horse broad side on showing only two legs and a half, and equally wrong to print under a matt that cuts off all the feet and a portion of the nose. It is a good photograph of a badly posed horse.

1616. **J. W. Woodward.**—"Signs of Spring" is a "record of fact" photograph of a subject of no particular interest and consequently of no pictorial value. There is matter sufficient for three or four pictures in this 4x5 print, and good pictures, too, by one who has learned to "see;" but where so much is squeezed into such a small space and especially with such perfect definition, it tires without pleasing the eye. The figures, only about one-eighth of an inch in height, to which you call our attention, are a blemish rather than an improvement, although they, with an inch or an inch and a half of their surroundings photographed from a point near enough to fill the 4x5 space, and with a lens of sufficiently long focus, might have been a fine picture.

Your photography, or technique, is

all right, and you should now devote your attention to learning how to "see," that is, how to recognize and reproduce the pictorial. See an extract from an article by A. Horsley Hinton on page 270 of our last number.

1617. **C. H. Brooks.**—"His First Picture," a 27 days baby in the way the mothers like, but a way that makes anything worth having impossible; the featureless features buried in a mass of white. Nor is this up to even the usual mark. The focusing has not been nearly as good as the subject demands, nor the exposure nearly sufficient. Next time you are tempted to tackle such a thankless job abjure white, lay the little one, nude, on a mat in a good light and wait for the right position that will surely come.

1618. **W. H. Craig.**—"Feeding Razor Backs," is one of those subjects in which definition in the point of interest is essential, and it is lacking in this. A bullock cart on which stands a barrel of swill and a man supposed to be feeding it to a number of pigs although he is really more intent on getting his picture taken, leaving the "razor backs" to the watchful care of his dog. It is the little things that tell. A mere turn of the head, giving attention to the swine rather than to the camera would have made a very decided difference. The most serious fault, however, is the want of definition in the pigs; as so much of a blurred mass are they that

but for the title it would be difficult to say what they are. Then, instead of



the definition beginning in the foreground and ending in a suggestion of atmosphere in the distance, the sharpest focusing is on the distant trees, every branch being in good focus, while the foreground is simply a blur.

Every one who has tried to photograph a number of pigs feeding knows that a very brief exposure is a *sine qua non*, and therefore should not attempt it except under the most favorable light and with a lens working with a large enough aperture; conditions that have not obtained here, as although there is sufficient shadow detail it has been got at the cost of such over-development as to convert half-lights, the sky, part of the road, the tires of the wheels and the horns of the bullock, into the highest of high lights, or white paper.

The subject and arrangement, even to the incident of the dog, are excellent, and with sufficient exposure, which in this case can only mean a lens at a considerably larger aperture, would have been a very interesting photographic "record of fact."

1619. T. C. Fraser.—"A Study," a lady with elbow on window sill and head resting on hand, evidently deep in thought, has both good and bad qualities. The conception is admirable and so are pose and expression, but the low tone and perfect sameness of lights and shades, the absolute lack of massing or concentration is monotonous. Every part in shade and every part in light are alike, and the eye wanders unsatisfiedly all over. Nor do we like the eccentric trimming that slices the left shoulder and down through the bust,

even although you may have good authority for so doing. We can imagine conditions in which we could love a one armed woman but we could never willingly make her so. Then, when you were trimming you should have been careful to do it straight instead of, as here, making the frame of the window very much off the vertical. Nor is the placing as well done as it might have been, the head being too low. A little more of the waist shown would have been better; and seven-eighths trimmed from the top of this would add to the height of the figure and get rid of a slight, dumpy feeling. We only return prints when they are accompanied by stamps for that purpose. Your non-observance of the notice at the head of this column in our May number and consequent sending the print to Tioga Centre instead of to Clifton Springs made it too late for the June issue.

1620. J. W. Woodward.—"The Ducks' Paradise" has the same fault as most of the prints sent, too much is crushed into such a small space, and with no object or point of more import-



TRIMMED.

ance than another. The right half of this as an upright occupying all the space, might have made an interesting little picture, while this is merely a con-

glomeration devoid of interest. We have, for this once, broken through the rule of noticing only one print each month because it is a pity to see such waste of time and material when by studying simplicity you might turn both to good account.

1621. W. J. Merrill.—"Portrait" is very far from a success. The front face in this case is the worst possible position, the prominence of the ears suggesting, in spite of every attempt to suppress it, the handles of a particular form of vase. Then the lack of space between the head and background makes it appear as if sunk into or at least cut out and pasted on, and the method of lighting has made the nose as if unnaturally flattened. A three-quarter face and the background so lighted as to show the necessary separation might have been very different, and could not have been worse.

1622. Mattie S. Mitchell.—We cannot congratulate you on the child portrait, and could reproduce it only as something to avoid. Children should be natural, and nobody ever saw one in its nightie sitting with its leg bent in this fashion and covered with flowers. Let the child pose itself, focus very much better, and throw away the flowers. We feel sorry for this little one evidently so cautioned to sit "still" that it has lost every trace of natural expression. In photographing children never forget "the beauty of simplicity" nor that their natural pose will be very much better than anything that you can force them into. See "Answers to Correspondents."

1623. Martin Dascher.—"Dam No. 1" one of four connected with the water supply of Fort Worth, Texas, is of interest only to those interested in water storage, the pronounced horizontal lines of the weir, from this point at least, making the subject pictorially impossible. While in picture making by photography the artist may take what liberty he likes with the subject, his object in "record of fact," which this is, should be the truth in detail and values, and it is in these that you have come far short. The 1-100 of a second which you supposed you gave has been far, very far, too short, everything in shadow being perfectly black and everything in light equally white. Even falling water is represented by a

broad black band with fine white lines across it. To get what there is development has been pushed till sky and water in direct light are unaltered paper. An exposure three or four



times as long, properly developed, would have given true values, and a suggestion of motion to the falling water which it does not now have. Try again with, say, 1-25 and develop with a solution about half the strength.

1624. Holger Damgaard.—"The Outskirts of the Forest." We hardly know what to say of this as we cannot imagine what you see in it. A 4½x3 in. of perfectly black paper with, beginning about three-quarters of an inch from the bottom, white specks of light scattered all over; and about the middle, some parts of a nude figure. From the title we suppose the white specs are points of light reflected from leaves, a supposition which, on examination with a lens proves to be correct, but exposure or development, or more likely both, has been so absurdly short that only the highest lights are reproduced. The figure is headless, has only a part of one leg and the upper parts of the hips. It would almost seem as if you had been aiming at some of the eccentricities of the so-called new school without the artistic ability that makes some of their effects really artistic.

But when all is said and done, sufficiently good technique, proper exposure and development, would have made this a charming picture. Nudes by photography are generally to us anathema maranatha, but this would have been an exception. You should carefully study the article on exposure in our January number. See "Answers."

1625. H. J. S.—"March." In aiming at the pictorial, or as you say

artistic, you will reach success more readily by studying simplicity. There is too much, and most of it of little interest, in this. The road on the right, and as an upright, properly managed, might have made a much, very much better picture. Then, the technique, with the perfectly white sky and part of the water is simply intolerable, and the flatness or want of contrast is not much better; resulting, as they do in a practically even grey tone with no one object of more importance than another. When you find a subject with pictorial possibilities, study its lighting till you find the conditions under which the lights and shades will be properly massed and contrasted, and when you cannot find them better than in this, reserve the plate for something more suitable. "See Answers to Correspondents."

1626. Anna Beckstrom.—"Roses." Flower photography is sometimes called the lowest style of art, and in many cases nothing beyond technique and arrangement is looked for. A careful study of this leads to the belief that it is the result of an ordinary plate and without a color screen; and, if so, the technique is quite as good as could be expected. It is evident, also, that the aperture has been too large, the sharp focus being confined to the middle distance, the bud on the right and the leaf on the left, while a smaller aperture, f-32 for example, might have given depth of focus sufficient to give good definition all over. The bud is a beautiful element in the composition that has been allowed to reach out too far for unity. The stem shortened by half an inch would have been a great improvement. You have done fairly well, but with an orthochromatic plate and color screen, and careful study of the lines in the most pleasing composition, you will do much better.

1627. Marl S. White.—"Autumn on the Banks of Grand River" is a photograph of nearly perfect technique, the only possible improvement in which would have been a shade longer development so as to have given a little more contrast. From a pictorial point of view there is a feeling of a want of balance; as if the mass on the right needed something to support it on the left, a boat for example, in the middle of the river between the second and third clump of trees. We like it very

much as it is, however, and should like it still better with a few clouds printed into the sky. The printing in of skies is now so well understood that those that are plain should be things of the past. Thanks for good words concerning the magazine.

1628. S. G. Ellis.—"A Fireside Companion" is a puzzle as we cannot see your aim nor understand the execution. Careful examination shows it to be an apparently large cat standing upright on its hind *feet*, not sitting on bent legs as cats sometimes can be made to do; and with its right arm trying to put something into its widely open mouth. This, however, is more or less guesswork, as the definition is too indefinite, and the greater part of the animal is shrouded in such cimerian darkness that it is almost if not altogether impossible to differentiate the larger part from the background. Better focusing and much better lighting would have improved the technique, but nothing, in our opinion, could have made it worth photographing. Animals readily lend themselves to the production of pictorial photography; but they *must* be allowed to pose themselves. The animal photographer who violates nature in his arrangements has mistaken his calling.

1629. W. H. Blacar.—"Hooked," a fisherman in a boat with hands above his head and rod bent so as to be returned on itself in pulling a fish out of the water, a method that no good fisherman would adopt, as if the fish was of any reasonable size something must give way. Along with the print our correspondent sends the following:

DEAR SIR:—It is said that it takes two to make a bargain, and I find that it sometimes takes two to take a snapshot of a moving object. My scheme is this, let one hold the camera and by looking in the finder keep trained on to the moving object, remarking as Dewey did, "When you are ready, Gridley, you may fire." The other party holding the bulb and paying no attention to the camera looks at the object and when things are just to suit him, presses the bulb.

I enclose a picture taken in this way where I was in one moving boat and the fisherman was also in one that was drifting at will. You will see that the operator was enabled to take the picture just when the fish had shown his

head above water, something that it would have been next to impossible to have done by only looking in the finder as the fish would have showed too small to have been seen with any certain-

the left would be a decided improvement.

1630. W. R. Hyde.—"Winter Night" does not favorably impress us, probably in consequence too of much



TRIMMED DOWN.

ty. Hoping that this will be of help to some other poor old "crank", I remain, etc.

Such prints are hardly amenable to criticism, but we may say of this, that if it had been possible, a point of view should have been selected from which the horizontal line of light, the bank of the river, would have been either altered or omitted, and that as it is, the trimming of an inch and three-quarters from



meaningless matter on the right. Making it an upright by trimming off an inch and a quarter from the right would be a decided improvement, as besides getting rid of the useless tree and much of the white paper that should have looked like snow, but doesn't, it leaves room for imagination, which, without such trimming there is not. The reproduction is trimmed down.

OUR TABLE.

Books for reviews and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y. During August to Point O' Woods, Long Island.

The Whitney Exposure Meter is the latest device for finding the correct exposure under all conditions. It is constructed on practical lines, the darkening of sensitive paper to match a standard tint. In this case the sensitive paper is Special Portrait Velox, which is obtainable everywhere if not already on hand. The meter

is easily understood after one or two trials, is made of aluminum and fits the vest pocket. See advertising pages.

* * *

Lloyd's Photographic Encyclopedia for 1903 is to hand, a bulky volume of 416 pages, listing everything photo-

graphic. It contains a most complete list of formulae and also directions for the working of various printing papers. There are several original articles, including "Photographing Interiors," "Coloring Lantern Slides," "Portrait Photography," "Stereoscopic Photography," and many practical pointers. Messrs. Andrew J. Lloyd & Co., 323 Washington Street, Boston, Mass., will be pleased to send the book on receipt of 25 cents to prepay postage.

* * *

G. Gennert, 26 East 13th Street, New York, sends his 1903 catalogue of Montauk Cameras, lenses and supplies. The well known Montauk Camera has been brought up to date in every particular and several new features will be found in the catalogue which is to be had for the asking.

* * *

The Reflex Camera Co. have made several improvements in their cameras, and discarded the bulky reversing back pattern. They make a special Reflex for lenses of longer focus, also a drop front pattern with bellows extension long enough to use the single combination of a doublet. Those who aspire to pictures of races and athletic sports should send for the Reflex catalogue to be had for the asking.

* * *

The Wynne Exposure Meter.—We would call the attention of our readers to the reduced price of the Wynne Infallible Exposure Meter. This is a most efficient guide to correct exposure under all conditions as the times, is registered by the actinic value of the available light. The verdict of those who use it is that it soon saves its cost in plates. It is sent out with full directions. The American agent, Mr. Henry Wenzel, offers a solid silver meter and a print meter for the first and second best print in each of four classes, the negatives to be timed with the Wynne Meter. He will send particulars on application, also a meter "on suspicion." See advertising pages.

* * *

The Century Curtain Slide Shutter is the latest appliance in this line for high speed work. From the way it splits up a second, from the 75th to

over a 1,000th part, it will keep other manufacturers hustling to provide lenses



and plates of sufficient rapidity to record the fleeting image. The shutter is strongly made and compact, with the fewest possible working parts, the width of slot and speed being adjustable from the outside. It is made to fit all Century Cameras and may also be fitted to other models. See advertising pages.

* * *

From the Illinois College of Photography comes the 1903-4 prospectus, an illustrated booklet of forty-eight pages, telling in a thoroughly convincing way a great deal of photography as a means of "making a living" and almost all about how best to acquire a thorough knowledge of it.

It is true that photography as a profession "is not what it was;" and that to become a certain kind of professional photographer is so easy that competition in that kind is so great that only by the hardest hustling can the "living" be made. But in the kind that is taught in the College at Effingham there is always room for both assistants and masters; room that is year by year becoming greater as the clientele to whom they cater acquire art culture and become better and better able to appreciate good work, to recognize the difference between "the usual thing," and a portrait that is also a picture. To those thinking of taking to photography as a profession this prospectus will be interesting reading, and may make all the difference between the success and failure of their lives. It is to be had for the asking or the sending of a post card to Effingham, Ill., and may prove to be the best invested cent of a lifetime.

Photographic Lenses, by Conrad Beck and Herbert Andrews.—Tennant and Ward, New York; price 75 cents. We have often said that while the lens is the most important tool of the photographer it is the one that he knows least about, and we may say at once that the object of this book is to supply that lack, and it does it in a way so simple that "he that runs may read." Its keynote may be found in its "inscription" where its object is said to be a "practical guide to the practical photographer, who, without wishing to deeply study photographic optics, is desirous of being able to use his apparatus to better advantage through a knowledge of the general principles which underlie its construction;" and being written by one who may be said to have been reared in an atmosphere of lens construction, there can be no question of its accuracy.

The book is divided into seven sections and an appendix in which everything that a photographer needs to know is plainly told and made plainer still by 156 figures and 45 plates. Mathematical and technical terms are almost altogether avoided, and where they do occur they are made clear enough for the proverbial child.

If *Photographic Lenses* has a fault at all, it is the fact that there is just a slight flavor of advertisement of the output of the celebrated house of which one of the authors is a member, and even that may be excused on the ground that he is better acquainted with his own lenses and what they will do, than with those of other and equally celebrated opticians. But it speaks for itself, and with no uncertain sound; and the photographer who does not get it and study it carefully will soon find himself left far behind those who do.

* * *

The Photo Miniature 47 and 49.—For some unknown reason we had overlooked the February number of this always interesting little magazine, a fact the more regrettable because it is one of the most interesting and practically useful of all that have gone before. Not that the author has said anything, or at least much, that is new of kallitype, but he has sifted well and brought together the best both in method and material, and in such a way as to, more than anything that has appeared, lead to the more general

practice of that excellent printing method. We are especially pleased to see on page 545, his unqualified endorsement of what has been called *our* combined toning and fixing bath, *i. e.*: water, 8 ounces; hypo, 1 ounce; gold chloride, 1 grain. Speaking of this, he says, "I am aware of the numerous objections to a combined bath, but I know of several very successful workers who have used this bath exclusively for several years without discovering any lack of permanency in their prints up to this date." For simplicity, economy, and beauty, including variety in color, the kallitype is far ahead of most methods, and nowhere are instructions for its practice so perfect or so easily followed as in *Photo Miniature No. 47*.

* * *

Photo Miniature No. 49.—The April number, deals with "Dark-Room Dodges," and being written by the well known F. C. Lambert, we confess to having expected something better or perhaps something more than we get. Not that it is not good enough so far as it goes, although there are few of the so-called dodges that most photographers of even limited experience had not hit upon early in their career; but they hardly seem worthy of a whole number of the magazine. But, perhaps, what to us seem small matters may have larger bulk in the eyes of the beginner, and at any rate he might do worse than invest a "quarter" in it as he will surely find something worth the money.

* * *

More Light in Negative Making, by Professor D. J. Cook of the Illinois College of Photography.—In "Our Table" in the January number, we noticed the first of a projected "five books" on this interesting subject, and the second and third are now before us. Two of the twenty-two pages of the second book are devoted to "early development, application, and general utility of photography;" two to the "evolution of the negative;" and so on through to the suitable selection of printing papers.

In the third book, of twenty-six pages the latent image occupies a little over a page; but exposure and development get each six and a half pages. "The Chemistry of Development," gets only one page, but in its 150 words the author has done what, so far as we have been able to see, no other

writer has done, adopted the correct theory of development; the theory that we have preached and written for about a quarter of a century—ever since the introduction of alkaline development. He shows that pyro or other so-called developer, in consequence of its affinity for oxygen, decomposes the water; the nascent hydrogen thus liberated decomposes the silver sub-bromide combining with the bromine and leaving the metallic silver *in situ*. The hydrobromic acid thus formed would stop the further action of the reducer, but for its combination with the alkali and the formation of, in the case of sodium carbonate, sodium bromide.

Speaking of the alkali reminds us of the only error we find in either of the

books, an error that although common, we had not expected in one that evidently knows so much. It occurs in "Solution B," amongst the formulae on the first page of the third book, in the use of the noun *alkali* instead of the adjective *alkaline*.

Sodium carbonate is an *alkali*, which when dissolved in water, makes the solution *alkaline*. We should not have noticed such a trifle, only those who do not know better, seeing it used by the author, might be encouraged in the error of their ways.

From what we have said it will be evident that "More Light in Negative Making" is a *multum in parvo* of useful information that should be in the hands of every photographer who wants to know.

SOCIETY NEWS.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Point O'Woods, Long Island, reports of meetings, copies of papers that have been read before the members, or anything of general interest to our readers.

The Camera Club of New York.

The regular monthly meeting of the club was held at its new quarters, No. 5 W. 31st street, this city, on the evening of June 9th. President Crosby presided. The treasurer's report showed large disbursements on account of moving expenses, and a reduced balance in the treasury. The House Committee reported that the studio on the roof was in working order and the bromide enlarging room was ready. The librarian reported that the books were gradually being put in shape. The secretary read a list of committees that had been appointed. He called attention to a sample of a water-distilling plant that Mr. Roy had submitted. A vote of thanks was accorded to Mr. Roy for supplying the plant. It was also announced that the Board of Trustees had approved the cancellation of the publication of *Camera Notes*. The meeting then adjourned.

JUNE 16, 1903.

The special meeting was called to consider the adoption of a proposed amendment to the by-laws increasing the annual dues from twenty dollars per year to twenty-five dollars.

After the meeting opened there was

considerable lively discussion on the question, the older members protesting that there was no immediate necessity for the advancing of the dues. But as they were in a minority and as the Board of Trustees had unanimously voted in favor of the advance, the older members' arguments failed to have the restraining effect and the vote taken resulted in the carrying of the amendment by a majority slightly exceeding a two-thirds vote. Twenty-one in favor to eight against. The amendment is to go into effect Oct. 1st next, when \$12.50 will be paid instead of \$10 as formerly. It is expected it will increase the income about \$1,000, if the percentage of active members does not materially decrease. The meeting terminated shortly after ten o'clock.

California Camera Club.

We have to thank the secretary of this energetic club for the prospectus of its 1903 Annual Outing, which makes us wish that for the time at least our lines had been cast farther west.

The following extract will tell our readers all about it and doubtless make them wish as we do that they could have joined them, although

alas! the notice comes too late for any of them, even if they could have managed it, to do so; the outing being from June 6 to 22.

"So take your vacation in Yosemite this year, where imposing cliffs and great mountains rise 3,000 to 5,000 feet above the valley and magnificent waterfalls roar and tumble for over half a mile.

"The outing will be a fifteen day affair, starting Saturday, June 6th, 8:00 to 11:15 p. m., from San Francisco, and reaching Wawona the next evening for supper. The following day a side trip will be made to the Mariposa Big Trees and the next day will bring us into Yosemite for lunch. We will stop in the Valley for 10½ days at Camp Yosemite, which is under the hotel management, and our time will be pleasantly spent in sight-seeing, picture-making and other recreations. Bring your fishing tackle if you care for trout fishing. The return will bring us back to San Francisco, Sunday, June 22d.

"The route we travel is through the San Joaquin Valley by night, making stage connections at Raymond, thence forty miles to Wawona, where we spend two nights at one of the most charming mountain resorts of the west, located in the heart of a vast pine forest, 4,000 feet above the level of the sea and at the edge of the Great National Forest Reservation, a spot ever to be remembered with fond recollections. Leaving Wawona, a seventeen-mile stage trip brings us to Inspiration Point, opening up the wonders of Yosemite, and eight miles further to our destination at the permanent Camp.

"Cost of the entire trip including

railroad fare, sleepers, stage, round trip and side trip to Big Trees, also meals *en route* and while at Camp Yosemite, will be about \$59.00.

Akron Camera Club Notes.

The Kallitype process has lately been occupying the minds of the members of the Camera Club, and it has furnished subject matter for discussion at the last two meetings. The first, under the direction of Mr. Earl Cahoon, was a demonstration of the method of sizing, sensitizing, and printing of the paper. Sample prints were shown on various goods and textures of paper from smooth linen ledger to rough Whatman's drawing paper, and the effects obtained were strikingly beautiful. The methods employed were those described in Photo Miniature No. 47, and were found to be practical and very simple. By the use of different developers it was found easy to obtain many beautiful shades of brown. The second meeting was a continuation of the first programme, and the demonstrations were conducted by Frank B. Hargett. He took up the methods of modifications in the Kallitype print and conducted experiments in intensification, reduction, toning, etc. The process is a very cheap one and will doubtless prove very popular, owing to the beauty of the finished picture and its ready adaptation to all classes of negatives. The wide range of choice in the printing surface enables the worker to use his taste and judgment to the best advantage, and there is no restriction on the expression of individuality in this process.

E. J. H.

LETTERS TO THE EDITORS.

Photographing Moving Objects.

DANVILLE, Ill., June 12, 1903.

EDITORS AMERICAN AMATEUR PHOTOGRAPHER:

GENTLEMEN:—Referring to picture on page 249 of your June issue and letter of Mr. Potter concerning the same, I cannot agree with Mr. Potter that the camera was moving at the time the exposure was made. No doubt it was the intention of the party holding the camera to keep it moving, but, I think,

he unconsciously held it in one position when making the exposure.

My reasons for the above conclusions are as follows: Viewing the picture through a reading glass you will find in the lower left hand corner the face of a woman that is under-exposed but not blurred; directly above it, just under the policeman, is the head of a man—same condition; just in front of the horse's head is the head of another man—a little out of focus, but no movement. The people, no doubt, as

is always the case under such circumstances, were waving their hats, handkerchiefs, etc., crowding and pushing their way to see the President, which accounts for the blurred condition of the crowd.

The only "stationary object" I notice is the railing to what I judge to be a stand. This is blurred no more than any object would be when out of focus, as this is, the focus being the point of the parade.

I still agree with the Editors of the *AMERICAN AMATEUR PHOTOGRAPHER* that it is impossible to make a sharp image of a moving object by moving the camera.

J. E. CRIM.

Another on the Right Track.

WASHINGTON, June 12th, 1903.

EDITORS *AMERICAN AMATEUR PHOTOGRAPHER*:

DEAR SIR:—Having read the letter of Mr. Clifford A. Miner, I make bold to inclose my five first attempts at photography, my case being almost an exact parallel to Mr. Miner's. I do not go so far as to hold you responsible, because the bug was already buzzing; hence, beginning February, I began to read photo magazines, among others *THE AMERICAN AMATEUR PHOTOGRAPHER*. I soon saw that I needed the January number, and those two were the only lessons in developing I ever had; I never saw any one develop before or after, plates or paper; and I must also confess that I had more help from the pages of your magazine than from all other sources and periodicals combined. I could not now think of going without it.

Being an admirer of large things in general, I thought I would never be satisfied with a 4x5, and not wishing to invest in a larger outfit before I knew more about the subject, hence I merely, at a very small outlay, borrowed a 4x5 Poco, and, as you will notice, of very short focus. The lens, however, must have been fairly good.

The baby was my first, or, to be correct, my second attempt; the first being the same subject, showing uneasiness, hence a very much under-exposed negative. The child by the desk was taken on a very rainy day; the room is the same, facing north, very poor light; used linen reflector, exposed about thirty seconds (probably longer), hence the staring eyes. The boy cadet is somewhat of a puzzle to me. I cannot make out whether it is over-exposed and under-developed or under-exposed and over-developed. All in all, I do not believe the results to be very bad for the veriest neophyte. Now I have decided on a 5x7 camera, and although I do not have any trouble in procuring the magazine in this city, I will soon send in my subscription, so as to avail myself of your kind and timely criticism before I fall in the wrong rut.

CLEMENT JACOMINI.

[The boy cadet is slightly over-exposed and under-developed. The group, except the posing, is good. The faces being in line and directly over each other, should have been arranged in more pyramidal form. The other print will be noticed in our next. We compliment you on your progress so far, and will be pleased to hear from you again, or whenever in need of information.—Eds.] See page 300.

ANSWERS TO CORRESPONDENTS.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Point O'Woods, Long Island.

Our Portfolio Criticisms.

M. S. MITCHELL.—Prints for the Portfolio may be printed on any paper you like, and don't be deterred from sending because you cannot do quite as well as certain others. Make your work to please yourself, taking your inspiration from nature and improving on it as best you can. For *Camera Work* apply to Alfred Stieglitz, 162 Leonard

street, New York. The price is four dollars a year.

HOLGER DAMGAARD.—Our criticism in "Our Portfolio" is for readers of the magazine only, who may send only one print at a time and only once each month. It is not compulsory that the reader be a direct subscriber, he may purchase his copy at the news stand or from his dealer. We get many

appreciative letters but would rather our readers would take the trouble to mention to their friends the benefits to be derived from the magazine.

The Cause of Distortion.

C. F. MURRAY.—Our contention has been, not that a lens of too short focus, say, anything much less than once and a half the longest way of the plate, about 38 degrees, gives a false perspective, but a perspective that seems to be false. An examination of two photographs of the same subject from the same point of view, the one with a lens of short focus, say an angle of between 50 and 60 degrees, the other with a long focus, say about 38 degrees, will show the truth of our contention. You will *feel* that the picture with the smaller angle is correct, true to nature, and just as it should be, while that with the wider angle appears unnatural, and unlike the place. Near objects are magnified and distant ones diminished; a figure in the foreground looks like a giant while one at a distance of only a few yards behind is reduced to a pigmy, and the street on which they stand appears to be three or four times as broad as it is long.

That it is not the fault of the lens, however, you may easily prove by cutting out of the print from the short lens just as much of the subject as is included in that of the long lens print and enlarging it to the original size, when the two will be found identical. Indirectly, however, the lens is the cause. It forces you to go too near the subject, to take too near a point of view; and it is just this to which Burnett refers in the statement to which you call our attention. He simply reverses it. Writing for painters who can change the "point of distance," or vanishing point, to suit a "point of sight," or view point; he says the former is too near the latter; while we, writing for photographers, whose "distance," or vanishing point may be fixed, but who can or should employ a lens that will admit of selection in the point of view, say the latter is too near the former. We do not at present know what book to recommend, but shall make the necessary enquiry and let you know in our next.

A Dangerous Compound.

A. S. SLOAN.—Yes, we noticed the formula to which you refer, but decline

to help you in any way to blow up yourself or your assistant. A flash-light powder that includes magnesium, red phosphorus, potassium chlorate and sulphide of antimony cannot be too severely left alone.

Focal Center of Lens.

HENRY S. BOLTON.—If you *will* have refinement in accuracy, the focal center of a double convex lens is in the middle, a line drawn from edge, while that of a plano-convex is close to the convex surface. The meniscus differs from both in that its optical centre is a little outside the convex surface; just how much depends on the curvature. For your purpose, however, as for most practical purposes, it is near enough to measure from the surface next the plate or focusing glass.

Latitude of the Developing Machine.

WILSON WARD.—The developing machine does not, as you suppose, tie you down to the use of any particular developer. You may use your own "pet" or any other, only you will have to find its time. Our only reason for recommending the Eastman formula is that its time has been found for you, and as you admit that it answers the purpose admirably, we cannot understand or see the force of your objection. Your easiest way to find the time of what you want to use, is by trying. Develop an exposure in the ordinary way, noting the time from the pouring on of the developer till the finish, give the same time in the machine, and if over or under done, correct accordingly.

Judge Your Lens by Its Work.

GEORGE SIM.—We have said over and over again that the bubbles in most of the best anastigmats do not lessen their value one iota. Our plastigmat, of which we have frequently spoken as being as near perfection as the optician can hope to get, has one bubble in each of its components. Certain kinds of glass cannot, without volatilizing some of the chemicals to which it owes its properties, be kept long enough at a temperature at which the air bubbles can escape, so that the fact of their presence should give confidence rather than inspire doubt.

It is within our knowledge that all the makers you mention submit their lenses to such tests as make it impossible for a faulty one to leave their hands.

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"DEEPLY
INTERESTED."

From a print on Helios Platinum Paper from an untouched Negative.

By Walter Cimiotti.

THE
AMERICAN AMATEUR PHOTOGRAPHER.

VOL. XV.

AUGUST 1903.

NO. 8.

CLOUDS IN LANDSCAPE.



Geo. E. Firmin.

"PLAYMATES."

As a "bald-headed sky" is no longer tolerated and the cases in which landscape and sky can be successfully photographed together are few and far between, "printing in" becomes a necessity, and for that purpose a stock of cloud negatives should be the valued possession of every landscape photographer.

How to make and how to employ them has been dealt with in these pages again and again, but a good story will bear telling, especially as when this reaches the eyes of our readers the best time of all the year for getting them will be on hand; the best, because August and September are almost universally the holiday time, and the best, because the best clouds, the beautifully white on a blue ground, are more numerous than at any other time. Not that we should confine ourselves to that particular variety, although they are more generally useful, but even during these two months there will be days when the dark clouds on gray grounds will come, and they should not be neglected.

Any ordinary camera and lens will do, the latter working at about f-22, but, while plates answer well enough, films are more convenient as they can be printed from either side, giving two negatives in one, our ideal at the present being the recently introduced Kodoid, its orthochromatic quality being an immense advantage. For dark clouds on a gray sky nothing more is necessary except a full exposure and careful development, the latter not carried nearly so far as for ordinary landscapes, For white clouds on a blue sky a color filter or screen is, if not essential, a very decided advantage, giving, as it does, a contrast impossible without

it. Just what the color should be is a moot question, although the greenish yellow made for us by Carbutt some years ago pleases us better than any other color or shade we have tried. For ordinary purposes the screen should be arranged to suit the plate employed, but in cloud work all that is required is to subdue the blue, and most shades of yellow or orange do that fairly well.

To save trouble in the selection of clouds for particular landscapes, it is well to remember at this stage that the note book should be employed. We take it for granted that the plate or film is numbered for future reference, and never forget to place beside the number the following data. The date, the hour, and the orientation; and when the plate or film is developed to copy that data on its edge. Never forget, also, that no matter how beautiful clouds may be, only those near the horizon are satisfactory when printed in a landscape. To that end, therefore, always include a small piece of the landscape in a cloud negative, as it will not only insure the correct position but also show at a glance the upside from the down, while the data will always prevent the too often seen sky and foreground lighted from different directions.

We have already said that a stock of good film cloud negatives is a valuable possession, and now venture to hint that there is money in the making of them. Not every photographer can go to such places as where suitable clouds do most abound, nor everyone remain long enough to make a large supply, but buyers to an almost unlimited extent can be found for all that the more favored could make. We thoroughly believe in the amateur making his photography pay for itself whenever he can; and have no doubt but that the dealer would be a good customer to any one who would bring to his notice cloud negatives of good quality on films.

But cloud negatives are only a means to an end, and our next question is how is that end best accomplished? We have tried almost all methods that have been proposed and still stick to the one thought out for ourselves in the days of wet collodion. Place the negative of the landscape flat against a window pane and on it a sheet of thin paper. Make a pencil line roughly along the skyline on the paper, and paste it on a piece that is opaque, any ordinary brown or wrapping paper will do. When dry, cut in two, along the line, thus making two masks, one for the sky the other for the landscape. The rest almost goes without saying. We always make the opaque paper just the outside size of the printing frames, we use two, and paste one on each. We print the landscape first, placing the paper and landscape negative in the frame on which is the sky mask. To prevent a too sharp line we pack a little cotton

between the mask and glass, just how much and how placed is learned by experience. When the landscape is printed the print is placed in the frame with the landscape mask and on the cloud negative, but instead of printing from the uncovered sky, we place over all a large sheet of cardboard and, going into the direct sunlight, move it up and down till dark enough. Of course, it could be printed without the moving card, but we think the gradation of depth from top to skyline, making it lighter toward the horizon is an improvement.

To do all this takes less time than it does to write about it, and it is much easier than it seems, as any one will find by a single trial; and we add with confidence that he who gives it that will never again let out of his hands a bald headed print.

Our "Second Self," who is in the habit of occasionally looking over our shoulder, says, "Are you sure that *all* of your readers will know just what you mean by 'Orientation,' and wouldn't it be well to make it a little plainer?" Perhaps so, and so here goes. By that word we mean the direction in which the camera is facing while the exposure is being made; and the properly marked negative would bear something like this: "4-7-1903, 8 a. m., S. W. by W.," meaning, the 4th of July, 1903, at 8 a. m., the camera pointing to south-west by west.



Reflex Camera,
Time 1-800th sec.

McCoy DRIVING "JOYMAKER."

C. S. Gottheil,
Photo.

SPECIAL SUBJECT SERIES.—VIII.

Carbon Printing.

BY DR. JOHN NICOL.



No. 1632.

Jules A. Bourquin.

"CHINESE LILIES."

ALTHOUGH carbon printing was briefly noticed as one of the alkaline bichromate methods in our June number, its importance in consequence of the fact that it is at once the most beautiful, the simplest, and most permanent, and the only method that gives all the possible degrees of gradation in the negative, entitles it to an article altogether to itself.

Carbon printing as we know it now, like most other photographic methods, is not the product of any one brain, but a gathering together of the contributions of many; its inception, if my memory is not at fault, being due to Fargier of France, although Swan of Newcastle, was the first to make its working practical. Both of those and for some time the men that came after them employed Chinese ink as the coloring

matter, hence the name "Carbon," although "Pigment" would now be the more correct term seeing that colored earths have largely superseded the Chinese preparation, and indeed carbon in any form.

Pigment printing is based on the fact that soluble organic matter such as gelatine or gum arabic, is rendered insoluble by exposure to light in the presence of an alkaline bichromate; and consists essentially of the exposure under a negative of a sheet of what is known as "Carbon tissue." This is paper coated with gelatine into which has been in-

corporated coloring matter, some sugar or glycerine, and which has been sensitized by immersion in a solution of ammonium or potassium bichromate.

In this way, light passing through the negative renders the gelatine more or less insoluble; the denser parts only on the surface, the less dense a little deeper, the half lights a little deeper still, and so on step by step till almost clear glass is reached, and what is to be the deepest shadow of the print is insoluble almost quite through the film. And the degrees of gradation thus given compared with that of any other printing method is simply marvellous, a fact that of itself should give pigment printing a preference over all others; although there are a dozen other reasons that, taken together, make it one of the puzzles of the time, to say why it is not universally adopted.

The making of carbon tissue is quite within the ability of most photographers, but it is better and cheaper to buy than to make; and as, unsensitized, it keeps indefinitely, and may be got in at least fourteen different colors or shades it is well to lay in a stock sufficient for the needs of a season. The only thing to keep in mind is that if kept in a very dry place, and the dryer the better, it may get so hard as to crack if bent, or in unrolling when it is kept in rolls, and therefore it is well to place what is to be used on any particular day in a dampish cellar the night before.



"SLEEPING MELODIES."

W. E. Cogswell.

Made on Cramer Iso Plate, three years old.

It must not be forgotten that negatives for pigment printing must be provided with a "safe edge," a line of black or non-actinic paint about a quarter of an inch broad all round the edges, or a strip of black paper, pasted round in the same way. Without this the tissue, during development, would break away from the support and lead to other troubles. It is also advisable to have what I call the actinic value marked on the negative. The tissue being black or the color of the pigment, there is no visible image, so that some form of actinometer or other guide to sufficient printing is necessary, but as with most conditions in which it is found, the time is just about that required to print ordinary printing out paper such as solio, not the over printing where it is to be toned and fixed, but just as a finished print is intended to be, it is easy to mark each negative once for all. As soon as each batch of negatives is finished I start to make a print from each on solio, not necessarily a full sized piece, as a strip across the principal part will do as well. At the same time a strip of the same solio is placed in Wynne's Print Meter, and exposed alongside of the negative. When the negative is printed to the desired shade the figure on the meter is noted and marked on it and called its actinic time; and ever afterwards in printing pigment tissue it is only necessary to place alongside of it the print meter and print to that figure. At the same time I make the safe edge by painting a narrow strip of black varnish, Bates answers admirably, just a little broader than the rabbet left by the printing frame or dark slide.

With the negatives thus prepared, the first step is to sensitize the tissue. And here I may say that the amateur will be nearest his mark to buy it in cut sizes than to have it in rolls or in larger sheets, as handling it, especially if the fingers touch the surface, is sure to lead to unpleasant markings. The sensitizing solution consists of potassium bichromate 3 to 5 parts dissolved in 100 parts of water, and made alkaline with solution of ammonia; as a rule the stronger in winter, the weaker in summer. It may also be taken as a rule that the weaker the negative the weaker also should be the solution. In my own practice I dissolve 5 ounces of the "Walpole granulated" potassium bichromate in 100 ounces of water and add sufficient of the stronger solution of ammonia to make it smell distinctly of the alkali. This I keep as a stock solution, adding to each four parts of it one two or three parts of water according to the nature of the negatives about to be printed and the temperature.

One of my friends, an excellent carbon printer, uses the following for all his work at all seasons, and says he has never found cause for a change:

Potassium bichromate.....	3 ounces.
Ammonium carbonate.....	1 drachm.
Alcohol.....	2 ounces.
Water.....	100 "

Whatever formula be employed, sufficient to fill the dish to the extent of about two inches should be filtered just before use, and it



No. 1639.

"THE LONG SHADOWS OF AFTERNOON."

Henry Popp.

should not be warmer than 58F., and anything between 50 and 55 would be better. The piece of tissue must be dusted with a hardish brush, somewhat gently applied, taking care, as already said, that the fingers do not touch the dry surface. Slip the dusted tissue, face up, under the solution, passing the moistened fingers all round the edges to keep it from curling, and by the end of one minute it will have become limpish. Then draw it from the solution, pressing the back against the lip of the tray, and return it this time face down, and again passing the fingers all around and over the back removing air bubbles that may be formed and which, if allowed to remain, would make marks in the finished print.

Just how long to leave the tissue in the solution is a matter of considerable importance, but three minutes altogether seems to be about right; the great thing being to keep the solution moving all the time, and to remove air bubbles from both sides as soon as they are formed. Sensitizing completed, the next step is to squeegee it on to a glass plate a little larger than the tissue. This is easily accomplished by leaning the glass at an angle against the side of the tray, supporting the upper end in any convenient way; or it may be laid flat on the table. Then take the tissue by the two end corners and remove it from the solution, letting it drain till drops cease to fall, and lay it on the glass. Cover it with a piece of rubber cloth rubber side up, and apply the squeegee, first from the center to the ends gently, and then harder and harder till perfect contact is made and the solution all squeezed out. The tissue is next clipped up to dry, and if the sheet is large it is well to clip a lath to the bottom to keep it straight. If sensitizing is done at night the tissue should be dry by morning. The operation of sensitizing may be done in diffused light as the tissue is not sensitive while wet, but the drying must be in the dark room; although I know some who squeegee it on a ferrotype plate pasting over the back a piece of opaque paper, and dry in the open air in the full light of day.

The experienced pigment printer knows that the drying of the tissue is by far the most important of all the operations involved. Slow drying tends to increase sensitiveness, but brings with it a lot of evils, that make him dread it as cats are said to dread mustard. It makes development difficult, prevents the getting of pure whites, prevents the necessary adhesion to the transfer paper, and gives flat uninteresting prints. Every effort therefore should be made to dry within six hours or less if possible, the very least that is admissible being to sensitize late at night and see that the dark room is thoroughly ventilated; and perhaps the very best would be an electric fan going all night.

How long will the sensitized tissue keep in perfect order is a question of much importance. It is said to be at its best the second day, and may be used with confidence any time say, within six days; but after that it should be regarded with suspicion, although the Autotype Company, the great authorities on the subject, have lately placed on the market cases containing fused calcium chloride in which it is said to keep perfectly for three months. In the absence of any means of preservation, however, it will be well to sensitize only as much as can be printed within three or four days, it being always better to stick to what we know than to experiment on methods that are open to question.

The actual printing of pigment tissue differs little from printing by

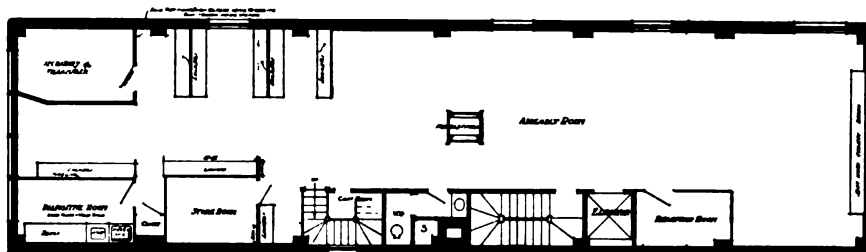
any other method, but the tissue must be more carefully cut. It should not be larger than just to cover the safe edge, and must not be so small as not to cover it. Both negative and tissue should be dusted; and the printing frame should have a strong plate of glass to lessen the chance of breaking the negative as the springs should be unusually strong, strong enough to bring the stiff tissue into perfect contact with the negative. And just here comes in the question of *when* development is to be conducted. It may be as soon as printed or within an hour or two, next day, or on the third or fourth day, but the printing must be modified accordingly. It is a curious fact that in carbon or pigment tissue the light action continues after the light has been withdrawn, so that a print that had been printed to the number designating the actinic value of the negative for immediate development, would, if allowed to lie till next day, be found over-printed to the extent perhaps of one number higher. As therefore, the negatives have been marked for immediate development or development within a few hours, such prints as are to lie over till next day must have a shorter exposure although just how much shorter must be learned by experiment, but it will be safe to begin by allowing one number of the Wynne for each six hours. Thus, for six hours one number less, twelve hours two numbers less, and so on.

But I have already exceeded the space allowed for this article and must leave the development and single and double transfer to the next.

NEW QUARTERS OF THE CAMERA CLUB OF NEW YORK.

On May 1, 1903, the Camera Club of this city moved from No. 3 West 29th street to new quarters in a new building at No. 5 West 31st street, and now occupies two floors (the eighth and ninth) besides a specially fitted up portrait studio on the roof.

The rooms are situated on the north side of 31st street, fronting towards the south, with large windows; also at the rear and in the east walls are windows overlooking Fifth avenue and the East River in the distance. The size of each floor is 25 x 100 feet, less the space on one side occupied by the elevator shaft and the stairway. The lower floor is connected to the upper one by a separate private fireproof stairway, and the roof studio is reached by a stone stairway. The small diagram is a plan of the lower floor showing the club and assembly room, occupying the front half with the stereopticon stand in the centre, reception room adjoining the elevator and lockers in the rear at right angles to the east wall, beyond



FIRST FLOOR PLAN, CAMERA CLUB OF NEW YORK.

which, in the corner, is the Secretary's and Treasurer's offices; opposite this is a diaphotogenic room and a store-room and near the latter are the private stairs leading to the main work-room above.

Arranged around the walls of the assembly room are the volumes of the large and complete photographic library of the club in glass cases, and above these is wall space for print exhibitions. The view looking northward from the southeast corner gives a glimpse on the extreme right of the stereopticon stand, also shows the elevator entrance with two



THE MAIN CLUB ASSEMBLY ROOM LOOKING TOWARDS NORTH.



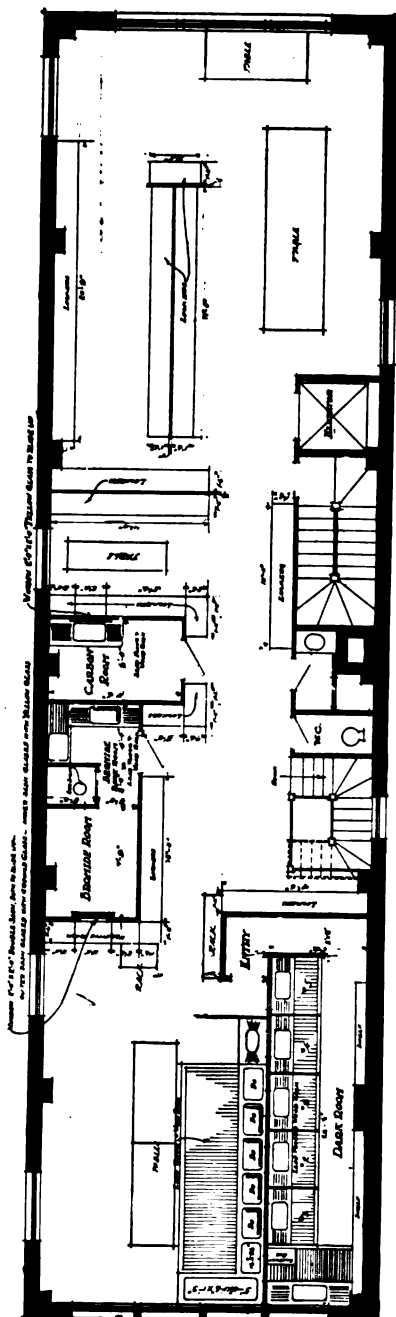
THE FRONT PORTION OF THE CLUB ASSEMBLY ROOM

umbrella pots each side, the library cases, and wall space for print exhibitions.

The other view of the same room looking southward shows the entrance to the reception room, the writing table, the large front windows, and the settees under the same. It is in front of these windows that the screen for slide testing is drawn. Tables on which are kept the latest photographic literature and comfortable chairs, with bright rugs on the floor, contribute towards making the club-room cheerful, homelike, and attractive. For club meetings, folding chairs are put up and one hundred and fifty members can be accommodated.

The large diagram is the floor plan of the workroom, the extreme front of which is used for lantern slide and daylight enlarging and for printing; one of the small views looking towards the corner out of the window shows the cameras in position facing the windows. Another small view looking northeastward toward the rear shows in the foreground the spacious mounting tables on which is an artificial light negative or slide viewing box, and in the rear rows of lockers. Back of these is the carbon room, fully equipped for carbon sensitizing and developing.

The exterior wall of the room is surrounded by lockers; beyond the



SECOND FLOOR WORK ROOM PLAN, CAMERA CLUB OF NEW YORK.



A CORNER OF THE PRINTING ROOM, COPYING AND ENLARGING CAMERAS.



MOUNTING TABLES AND LOCKERS



A GLIMPSE OF THE PORTRAIT STUDIO.



EXTERIOR OF DARK ROOM SHOWING WASH SINKS AND DARK ROOM WINDOWS.

carbon room is a spacious bromide and enlarging room, fitted with a specially enclosed electric arc light and a large sink and trays for developing.

The wall space in the rear of this room is used for holding negative racks for drying negatives, positives, prints etc.; on the northwest end of the floor will be seen the spacious dark room having an L shaped entrance which keeps out the light but allows free access without doors. There are outside electric lights and five divided developing stalls each about four feet square, and one developing sink in the rear. Outside are washing sinks for prints, plates, etc.

A well equipped portrait studio is located on the roof, having a spacious northern skylight. The interior view shows the fine portrait camera and other accessories belonging to the club, and small skylights in the rear. The size of the studio is about eighteen by twenty three feet.

It will be noticed that the arrangement of the work-room floor is most complete for the various kinds of photographic work to be done and the location of the rooms near 34th street and Fifth avenue is most convenient and central, especially for those who have no home dark room

accommodations, while the large locker space is valuable for the storing of negatives, chemicals and apparatus. It is expected the coming season will be particularly fruitful in photographing work, the international yacht races forming a subject of much interest to skilful amateurs.

"RING OUT THE OLD, RING IN THE NEW."

BY A. B. PHELAN.

(Official Photographer for Harper's Weekly)

IN casting about for a developer that would give me all the advantages of pyro, without any of its disadvantages, I was induced to try edinol, with the result that I am now using it in all my work and find that it equals in every way and is much better adapted for universal use than our old time favorite. With edinol you cannot only get pyro results, but much more pleasing effects and without the inevitable stains.



A. B. Phelan.

"AQUATIC SPORTS."

It is also an ideal developer for all kinds of developing papers. With it you can get contrasty prints with clean whites from any printable negative or you can make a "soft" print from a contrasty negative, on velox paper by developing the print with the formula containing caustic potash, which I will mention later.

When you have been making some under-timed snap-shots use this

caustic potash formula and you will get an image that no other developer will give you, not excepting your old favorite pyro.

Edinol will give you many surprises, the first being its rapidity in bringing up the image; the speed is somewhat startling, especially with the caustic potash formula. This is no indication of over-exposure, so continue until it has reached the proper density. The next surprise will be in finding your negative full of delicate detail where you expected open shadows and unprintable high lights, such as you obtain when you use pyro, or metol-hydrochinon.

It will give you a further surprise, when on examining a negative of an interior or some similar subject you will find less halation than you expected. This is one of the features of edinol which the manufacturers seem to have overlooked in their descriptive circulars, but as it is such an important advantage over other developers I should think they would make a special mention of this fact in their advertisements.

Here is a scheme for all-around work. It is the one I have adopted because my exposures are of such a variety. Sometimes I may have twenty or more plates of different subjects to develop at one time, and it is not advisable to try to develop interiors, groups and instantaneous exposures in the same developer.

Prepare 1 oz. Edinol
50 oz. Water
25 oz. Sulphite soda-crystals.

this makes a stock solution to which you may add any of the following stock solutions of alkali, as best suits the exposure.

For portraits and soft results use equal portions of the stock solution of edinol and

10 oz. Carbonate soda
50 oz. Water

For ordinary exposures and where more contrast is required use following alkali solution with equal portion of the stock solution of edinol—

6 oz. Carbonate potash
1 oz. Acetone sulphite
50 oz. Water

For instantaneous and under-exposures take from alkali

1 oz. Caustic potash
50 oz. Water

and with this use equal portion of the stock solution of edinol. This formula makes a wonderful developer; it will bring up an under-exposed image quickly and will not be too contrasty. (The negative "Aquatic Sports" was developed with this formula; you can see that it was a very rapid exposure, but still it is full of detail and very soft.)

It is possible you may have objections to using a caustic alkali; some people have. I have found, however, that by keeping my solution cool say about 65, I have never had any difficulty. This is undoubtedly due to the entire lack of any tendency to fog on the part of Edinol which really is a wonderful developer for producing clean, clear-cut negatives.

THE DEREPA'S DRY-MOUNTING PROCESS.

MESSRS. DEREPA'S FRERES, of 99 and 101 Rue Saint-Honore, Paris, the introducers and patentees of the system of dry mounting for photographs, to which reference was made in the *Journal* rather more than a year ago, have been recently giving practical demonstrations of the process in London. In a prefatory note to an explanatory pamphlet which treats of the method, and the material and machinery necessary for it, Messrs. Derepas make the following observations on the expansion of paper in wet mounting. Readers of these pages will hardly need reminding that this is a matter to which we have many times given attention.

"It is well known that paper undergoes considerable distension when wetted, varying according to the quality or character of the paper as well as to the amount of water absorbed. The amount of this distension is not generally recognized, but it becomes a serious distortion, as practically every paper expands more in one direction than another when wetted. Roughly speaking, an ordinary sheet of photographic printing paper, say, 12x10 inches, would show an expansion of 2-8ths to 1-2 and inch. When an unmounted print is dry, it returns practically to its original dimensions, but if we have to mount a print in the ordinary way, and especially on fairly stout mounts, the print, being held during drying by the surface of the mount, does not return to its original dimensions, and as the expansion is not uniform in both directions of the grain of the paper, the dry-mounted print retains the distortion of the wet print. There is another trouble caused by mounting in the ordinary way; it is the warping or cockling of the mount. This trouble is so serious in mounts of book form which cannot be pressed or rolled, that collectors generally prefer to place the loose prints in slots cut in the mount or to fasten them at the corners only, by an adhesive. The warping or cockling of the mounts is usually partially remedied by rolling or pressing. Some mounts made with specially grained surfaces are spoiled completely by so doing. Another disadvantage of the ordinary method of mounting is that unless the materials of which the mounts are made are pure and without action on the photographic image, fading, either generally or in spots, is produced, so that, unless special care is given to the mounting materials, the prints are in danger of deterioration. This important fact has caused good quality mounts to be expensive."

Shortly described, the Derepas system of dry-mounting is as follows:—A sheet of thin paper which rendered adhesive by a special solution, possibly that of india-rubber, is placed between the mount and the print. Intimate contact is obtained in a heated press, simple pressure for two or three seconds sufficing to secure a perfectly mounted print, no wetting either of the mount, the adhesive, or the photograph being necessary. The chief advantages claimed for this system of dry-mounting are as follows:—(1) Rapidity of execution; the requisite skill being acquired with a few hours' working of the machine. (2) The prevention of distortion in the mounted print. (3) The avoidance of the warping of the

backing; simple sheets of paper, silk, etc., can be used as supports. (4) The isolation of the photograph from the mount. (5) Variety of artistic effect, form and dimension. (6) The substitution of thinly mounted photographs for the ordinarily thickly mounted photographs in albums, etc. (7) Variety of shapes: round, square, oval, etc. (8) The possibility of superposing the photographs on variously tinted papers, stampings, designs, etc. (9) Ease and certainty in unmounting the prints if desired.

In the demonstration kindly afforded us by Messrs. Derepas, we recognized that most of these claims could be easily substantiated. First of all, experiment showed that as contrasted with the half of a print mounted wet, the other half mounted dry by heated mechanical pressure remained unaltered in dimension. The machine used for applying the pressure, in its simplest form, resembles a somewhat heavily constructed copying press, and before the pressure is applied a metal plate is placed over the photograph, the backing and the mount. The whole operation takes but a very few seconds, and the results shown us were perfect in their way. The Derepas system admits of a variety of applications, which were also demonstrated; for example, prints with matted surfaces were produced by the employment of a suitably surfaced metal plate placed in contact with the photograph. Again, wet and dry halves of a print were applied to a bronze paper support, with the result that the dry-mounted half of the print remained unchanged in appearance; whereas in less than an hour the wetted half had commenced to exhibit the disagreeable phenomena of fugitiveness. The use of the machine in plate marking mounts was also shown, and in this respect we should think the presses would be found eminently serviceable by mount-makers. Again the application of pressure to a hard metal frame placed in the photograph produced beautifully trimmed prints with square corners. Messrs. Derepas' demonstration was a great success throughout. It should be said that the machines are made in a variety of sizes, and for amateur as well as professional use. We had almost omitted to mention one very valuable feature, namely, that by the application of heat through a metal surface to a temperature of about 250 deg. F., photographs mounted by this system may be so neatly unmounted that the picture, the backing, and the mount can be perfectly separated from one another. Those of our readers who are interested in the rapid and efficient mounting and trimming of photographs by mechanical means should take our recommendation to place themselves in communication with Messrs. Derepas.—*British Journal of Photography*.

Illinois College of Photography.—From the monthly bulletin kindly sent to us by this wonderfully progressive college, we learn that the students and their many friends from outside had a "glorious Fourth"; incidental to the celebration of which were a tennis tournament, sack and egg races, horse riding contest, etc., etc.

Not the least interesting feature of these bulletins is that which tells of the success of the college graduates, both as employers and employed, and of the many who return both as visitors and post-graduates. We have ample evidence that the college is doing excellent work.

THE LATE DR. EDWARD L. WILSON.

DR. EDWARD L. WILSON, editor and publisher of *Wilson's Photographic Magazine*, New York, and well known as the author of several standard text-books on photography and Oriental travel, died at Vineland, N. J., June 23d, and was buried in the little cemetery of that town on Friday, June 26th. By his death American photography loses one of its pioneer workers, who was prominently associated with its progress during the last forty years, and whose whole life was devoted to the practical helping of those who follow photography as a profession.

Edward L. Wilson was born at Flemington, N. J., in 1838 and received his education at the local academy. He began his work in photography at Philadelphia in the early sixties, being associated with Mr. Frederick Gutekunst, the veteran portrait photographer of that city. In 1864 he began the publication of *The Philadelphia Photographer*, then the only photographic magazine in America. At that time photography was in a transitional state, hampered by innumerable restrictions and abuses, infested by a class of men who, taking advantage of the little practical information available concerning the early processes, traveled the country over and sold so-called "secret processes" and "rights to use" certain formulæ. Photographers were also struggling under the burden of a stamp tax upon every photograph made, adopted as a means of revenue during the Civil War. The Carbon patent and the lithographic patent were also among the troubles of these early years. These abuses Mr. Wilson from the beginning endeavored to remedy and with complete success. His first service was to secure a modification of the copyright law of 1831 so as to include photographs. In 1865 he organized and led the opposition of the fraternity to the so-called "Bromide Patent." This fight continued during several years and eventually resulted in the upsetting of the patent, by which decision photographers were freed from a grievous tax. The stamp law was modified in 1866 and completely removed in 1868. In this year Mr. Wilson was foremost among those who organized the National Photographic Association, of which the present Photographer's Association of America is the successor. Of the old N. A. P. Mr. Wilson was the permanent secretary for many years, devoting to its service considerable personal labor and resources. The first exhibition and convention of the association was held at Boston in June, 1869. Early in this year the photographers united under Mr. Wilson to oppose the issuing of a patent controlling all methods of saving wastes from photographic solutions. The validity of this patent was challenged, and during the progress of the legal battle which covered a number of years, Mr. Wilson was arrested in New York. Eventually the patent was overthrown and Mr. Wilson received, at the Cleveland Ohio Convention of 1870, the congratulations of the fraternity upon his victory. In 1873 the National Association held at Buffalo, N. Y., what was probably the most successful photographic gathering ever held in America. A special num-

ber of *The Philadelphia Photographer*, comprising some 224 pages, reported this convention in detail, being published within two weeks after the close of the Convention—a remarkable journalistic feat at that time.

Immediately following this Convention Mr. Wilson was appointed by the City of Philadelphia as a delegate to visit the Vienna Exposition of 1873, to awaken interest in Europe for the coming Centennial Exposition of 1876 held at Philadelphia. Returning to America, the National Association, through *The Philadelphia Photographer*, organized a movement to secure a separate building for photography at the Centennial Exposition. By Mr. Wilson's personal effort half of the sum necessary was contributed by the Centennial Exposition authorities, the other half being gathered by subscription among the fraternity. This resulted in the most wonderful exhibit of photography and its applications yet seen in America. The photographic concession of the Exhibition was placed in the hands of Mr. Wilson and the late W. Irving Adams, under the name of the Centennial Photographic Co. This concern employed hundreds of workers and secured a complete photographic record of the exhibition from its inception to its close. We believe that the British government is the sole possessor of the complete collection of photographs comprising this notable record of the Exposition, although many of the negatives are now deposited in the Commercial Museum at Philadelphia. Later he also had charge of the photographic department of the cotton Exposition at New Orleans. In 1880 Mr. Wilson issued a special supplement to *The Philadelphia Photographer* urging the organization of the new Photographer's Association of America, and calling attention to the promise of the dry plate being introduced at that time.

In 1882 he visited the Orient in charge of the largest photographic expedition ever attempted in those countries, visiting and photographing through Egypt, Arabia and Palestine. Returning to America he utilized the vast source of pictorial material thus secured in the lecture field and in the preparation of articles for *The Century* and *Scribner's Magazine*. His exploration of the buried city of Petra in Arabia was recognized by savants as a distinct achievement. In recognition of the value of his work in the East, as supplying lost links in Biblical history, the Washington and Jefferson College of Pennsylvania honored him with the degree of Doctor of Philosophy.

From the beginning of his work in photography he evinced a wide and enthusiastic interest in the possibilities of the optical lantern as a means of instruction, and did much to make stereoscopic photography popular among the American people. His collection of lantern slides and stereoscopic views of America and European countries was probably the most comprehensive ever brought together in America. During these years the publication of *The Philadelphia Photographer* was continued and in addition Mr. Wilson undertook the editing and publishing of *The Photographic World* and *The Magic Lantern*, the latter being, we believe, the first periodical devoted to this branch of photography.

In 1885 the name of *The Philadelphia Photographer*, was changed

to *Wilson's Photographic Magazine* and the office of publication removed to New York, where it was published as a semi-monthly, and later as a monthly magazine. During the years 1881 to 1893 Mr. Wilson wrote and published his well known text-books on photography, which have enjoyed an unusually large sale in America. Of these, *Wilson's Cyclopædic Photography* known to some of our readers, may be mentioned as probably the most comprehensive work on photography in the English language. After the removal of the magazine to New York Mr. Wilson steadily continued his labors as a photographic journalist until his death, recognized by all classes of photographers as one of the fathers of American photography in the truest sense of the phrase. He had an enormous capacity for work, and his various publications will remain as a monument to his indefatigable ability in photography. A man of high ideals and sterling integrity, he had a lovable personality, and possessed in an unusual degree the faculty of attracting the enthusiastic support of those with, and for whom he worked during his long life. He leaves a gap which it will be difficult to fill, and his death will be mourned as a personal loss by all who touched his life and work.

NEW PRACTICAL WRINKLES WITH RODINAL.

BY PROFESSOR FLORENCE.

That many of the newer alkaline developers on the market could be better, also that many are excellent, is not to be doubted. This condition of affairs makes it imperative that the amateur (mostly beginners) must make a number of experiments, and I regret to say the majority of them are indefinite experiments, jumping from one to another, before becoming thoroughly acquainted with any of them.

Depending upon the advice of your friends is out of the question, as Tom will praise this, Dick will praise another, and Harry will swear by still another. For the benefit of those who do not desire to experiment, I will tell you of my experience with Rodinal.

Rodinal, like most of the names of developers, is a manufactured word signifying a concentrated solution having Paramidophenol as its base.

This solution is ready for use and does not require the addition of any other solution, but since it is highly concentrated, the addition of water is essential. A coincidental fact, and one which is very much in its favor, is that Rodinal will give the best possible results with any spring, brook or tap water from any part of the country.

The power of this developer depends entirely upon the dilution. For soft negatives more water should be added, and *vice-versa* for contrast. Rodinal is therefore a more convenient and practical developer to use than any other, it produces negatives clear, clean and of perfect gradation of the high lights, half-tones and shadows.

The proper dilution is as follows:

For normal exposure:		
Rodinal.....	1 oz.	
Water.....	30 oz.	
For over-exposure:		
Rodinal.....	1 oz.	
Water.....	20 oz.	
For under-exposure:		
Rodinal.....	1 oz.	
Water.....	40 oz.	

To ascertain the condition of plates of questionable exposure, all that is necessary is to first place the plate in a normal solution and watch same very closely. If the image appears immediately it is over-exposed. Pour developer out of tray and add more Rodinal until you have about the proportion of 1 to 20, return to tray and continue developing. Should the plate be very much over-exposed and look foggy, add a small quantity of 10 % solution of bromide. It is wonderful what a small tendency a negative has to fog when developed with Rodinal.

Should the image appear very slowly in the normal solution it is under-exposed and the developer requires an addition of water.

It is necessary to carry the negative quite far in this developer, more than you would with other developers. It will then have the proper density, after it has been fixed.

Under-exposed plates can be built up very strong; leaving them in a very weak developer one hour very well repays the wait; for the result is a brilliant, well-defined negative. It is here interesting to state that Professor Godwin claims negatives developed with Rodinal intensify better than negatives developed with any other developer.

As Rodinal is especially good for clear negatives, full of detail, it makes it adaptable for Lantern-slides, Diapositives, Bromide and Gaslight papers.

For Lantern slides and Diapositives use:		
Rodinal.....	1 oz.	
Water.....	30 oz.	
no Bromide		
For Gaslight papers use:		
Rodinal.....	1 oz.	
Water.....	20 to 30 oz.	
Bromide (10% Solut.).....	40 to 50 drops	
For Bromide papers use:		
Rodinal.....	1 oz.	
Water.....	50 to 100 oz.	
Bromide (10% Solut.).....	10 drops	

The whites in the above papers remain absolutely white and show no sign of fog. The tone in the Bromide Papers varies from blue-black, black to gray-black, depending on the strength of the developer

Rodinal will keep for years, but after having opened, will slightly lose its color. This change in color has absolutely no effect on its strength and can be used with impunity for negatives. I advise making a fresh solution, to obtain the best results with paper. Rodinal will not injure nor stain the fingers.

WORDS FROM THE WATCH-TOWER.

BY WATCHMAN.

DOES a professional or any other kind of photographer make his own plates? Until a few days ago I should have emphatically answered NO. But wonders will never cease. G. T. Harris, in *Photography* not only says that he does it, but, what is still more wonderful, that his plates are equal to any on the market both in speed and quality; and by way of encouragement to others to follow the example he gives the following list of the net cost of the various sizes, and declares that it is correct to a fraction:

$3\frac{1}{4} \times 3\frac{1}{4}$		7	cents per dozen.
$5\frac{1}{2} \times 4\frac{1}{4}$		17	" "
$8\frac{1}{2} \times 6\frac{1}{2}$		29	" "
12 x 10		72	" "

He does not include labor as he makes them in winter at times when he would not necessarily be doing anything else, and happening to know something about plate making, I know that he has not taken into account the cost of his failures; two items the addition of which to his estimate would make a very different showing.

* * *

While it is true that there must be a cause for every effect the cause is sometimes difficult to find and curious suggestions are not infrequently made during the search. One of the latest is furnished by Philip Bemrose in *Wilson's* for April. Among some good advice to photographers as to the keeping of solutions, he says: "Why does the air so insidiously penetrate into places where it is not wanted? Surely there can be no current of air flowing into and out of a bottle. It is largely a question of temperature. During the day the bottles probably get warm and the air inside expands, and so forces a part of itself through the cork. When things cool off the air in the bottle contracts, and so more air percolates through the cork, carrying a fresh supply of oxygen to the solution." Who would have thought that the compressibility of the air was less than the permeability of the cork? But while I am never too old to learn "I hae my doots." A good cork will bear a pressure of several feet with no perceptible escape of air or gas through its pores, and it would take a pretty hot day to raise a pressure greater than that inside a bottle. What a lot of trouble would be saved if writers generally would make sure that their statements were based on experimental evidence!

* * *

The Glasgow and West of Scotland Photographic Society has for some years had a feature that might with advantage be copied by many of the camera clubs on this side; as it not only supplies entertaining matter for a number of meetings, but often brings out unsuspected talent, that but for it might have lain dormant till the end. The feature is illustrated lecturette competitions; short lectures illustrated

by a series of lantern slides, the quality of both lecture and slides being taken into account in awarding the prizes.

* * *

Is there anything new under the sun? It will doubtless be "news" to many of the readers of these "words" that the first conflict over fuzzyism or diffusion of focus *versus* perfect definition all over the plate, and as to the legitimacy of "faking" was started by the first paper read at the first meeting of what is now the Royal Photographic Society of Great Britain, as early as February 3d, 1853. Sir Charles Eastlake, then president of the Royal Academy, was in the chair (painters had not yet begun to look on photography with the contempt that characterized them in later years) and the paper was read by Sir William J. Newton, another well known painter.

Sir William after calling attention to the unorthochromatic nature of the sensitive film and the consequent false luminous values, says: "Consequently I conceive that when a tolerably faithful and picturesque effect can be obtained by a chemical or other process, applied to the negative, the operator is at full liberty to use his own discretion." Then as the pioneer of the "fuzzy" school, he continues: "I do not conceive it necessary or desirable for an artist to represent or aim at the attainment of every minute detail, but to endeavor at producing a broad and general effect, by which means the suggestions which nature offers, as represented by the camera will assist his studies materially; and, indeed for this purpose, I do not consider it necessary that the whole of the subject should be what is called in focus; on the contrary, I have found in many instances that the object is better obtained by the whole subject being a little out of focus, thereby giving a greater breadth of effect, and, consequently more suggestive of the true character of Nature."

But then, as now, there were f-64 men, and they were in the majority, so that on March 3d, when the first number of *The Journal of the Photographic Society* appeared, the first paper printed was Sir William J. Newton's preceded by the following disclaimer: "The Council of the Photographic Society, in proposing to print in the journal abstracts of papers read at the ordinary meetings, or in giving the papers at length, do not thereby adopt the views or opinions of the authors."

Although this disclaimer remained for years at the head of papers published in the *Journal*, Sir William knew that its inception was the result of what the Council considered his departure from what ought to be the true aim of photography, and at the second meeting, held on the evening of the day on which the *Journal* was published, March 3d, he referred to the notice saying he was aware that it referred particularly to his paper, and added, "I take the whole responsibility upon myself, feeling perfectly assured that when my recommendation becomes more generally known and practised by artists, it will then be better appreciated by all classes of photographers," and in this he was a true prophet.

* * *

I wonder whether the following may not be the first inception of the photographic lantern slide. In one of the very early numbers of

the *Journal* a correspondent says: "If the editor of the *Photographic Journal* can enlighten a subscriber on the following point, he will confer a great favor.—How may one reprint from a glass negative on glass, so as to serve for a phantasmagoric lantern?" to which the editor replies; "Probably the best way would be to take a positive copy on collodionized glass by means of M. Heilman's panogenic pantograph described in this day's *Journal*. After this has been fixed and varnished, it is fit for a slide, showing, however, light and shade only, but it may then be colored by hand in the ordinary way of painting lantern slides—that is, with transparent colors mixed with varnish. Heilman's photogenic pantograph, the editor of *Photography* adds, was in every essential detail what we should now call a fixed focus lantern slide camera.

* * *

All this interesting information I have extracted from an excellent article on "The Royal Photographic Society's Jubilee" in *Photography*, a most valuable contribution to the early history of what is almost the oldest, and should be the most useful and influential photographic society in the world.

* * *

Frank M. Sutcliffe, in *The Amateur Photographer*, gives some good advice concerning photographing subjects including trees on a windy day, and shows a good landscape to give force to the advice. He says: "In working among trees in a wind it will be found more advisable to give ten minutes' exposure than two or three seconds; with the latter exposure many leaves would appear double, with a long exposure they would appear as a veil, a mist only, provided of course that the wind was strong enough to move them considerably."

One of the best pictures I ever made,—it was in the old wet collodion days, and I have a slide from the negative before me now; was of a small ornamental lake partly surrounded by large trees, and included a boat, a dog, and a game keeper. It was blowing a little hurricane, and I kept watching the lulls, taking off the cap when they came and replacing it as they went for fifteen minutes; and it was a beauty; not only in my eyes, but also in the eyes of the judges of at least three exhibitions, as is testified to by two medals of the highly valued silver and one of modest bronze.

* * *

Writers in the lay press when they take to writing of photography generally put their feet in it, but I hardly expected anything of the kind in the *Scientific American*. But even Homer was supposed to sometimes nod, and readers of that always interesting journal must have been both surprised and amused by the article "Some Experiments with Actinic Light," by Dr. Kime in its June 20th number.

The Doctor knew so little of photography that he had to call on a photographer for assistance, and it is evident that the photographer knew as little of science as the Doctor did of photography, as the first thing they did was to select seven pieces of glass *corresponding in color to the various colors of the solar spectrum*. The italics, of course, are mine,

and they are meant to call attention to the fact that glass so selected, that is without spectroscopic examination, may be as different from similar but true spectrum colors as chalk is from cheese. Maybe that is too strong, but I feel strongly when such an influential magazine is led to give what should be valuable conclusions on such insufficient data.

With glass so selected the Doctor made an artificial spectrum, adding to the more refrangible end a space without glass and one piece of clear glass. This he bound on to a sensitive plate and exposed "almost instantaneously" to very weak diffused daylight. In a second experiment the same spectrum was exposed on a sheet of ordinary photographic paper, "Aristo," till the sun had fully printed the open space. Two diagrams are given, the first evidently the result of the exposure on the plate, and the second as evidently a print from it, although the ordinary and unphotographic reader will be apt to consider it a copy of the paper print; although the Doctor says it is a positive while the first is a negative overlooking the fact that where there has been no object there can be neither the one nor the other.

Not his nomenclature, however, but his conclusions need attention, and they are very different from those of investigators who knew better how to equip themselves for the investigation. His first discovery is the old old heresy that blue glass transmits more actinic light than glass that is colorless, a heresy now so well known as not to need confuting. Then, because an "almost instantaneous exposure" to very dull diffused daylight failed to impress the plate through the red and orange glasses he assumes those rays to be blanks in a "chemotactic" sense, that is, I presume, opaque to actinic light. And this in spite of what his third experiment might have taught him. In it he bound a small negative to an equally small plate, inserted them into his mouth, pressing them against the cheek, and, by light passing through that got recognizable prints. Any one who in his boyhood amused himself and his companions by placing a lighted match in his mouth will remember the brilliant red of the translucent tissue and have no doubt as to the transmission of actinism by the red.

And there is worse to come. Having more confidence in his unscientifically selected colored glasses than in "recent literature," which credits the violet and ultra-violet with the maximum of actinism, he puts blue to the top of the tree and gives to violet less than half as much, saying "in both plates the violet band is shown to be poor in actinic light, hence the so-called violet ray" which is now so common in literature should be dropped, and 'blue ray' should be substituted in its place."

The conclusions of Dr. Kime and his photographic assistant, in spite of the lack of photographic knowledge on the part of the one, and of scientific knowledge on the part of the other, may be in accord with the showings of the glass they employed; but, as will be seen from the statements of others better equipped for the work, they only contained the little truth that is often worse than one that is wholly false.

It is true that we sometimes still speak of the chemical and the visual rays, but that is more from habit than from the facts of the case, as we know that they differ only in degree, and even the red will give a latent

image on the ordinary plate if we expose long enough, and on a plate but slightly modified without that long enough being very long. Carbutt's Polychromatic plate, for example, requiring only four times as long for the red as for the blue.

J. E. Huiskamp, chemist in the Seed Dry Plate Co., in an article on the use of orthochromatic plates, in *Photography*, quotes from Harrison's *Chemistry of Photography* the following table showing the comparative degrees of actinism in the colors from dark red to ultra-violet; not through visually selected glasses but from the direct action of the solar spectrum on silver bromide. An exposure just sufficient to produce a faint trace of action of the red was taken as zero, and indigo, which Dr. Kime places as slightly less active than the blue, being the most actinic of all, is valued at 1000.

Dark red.....	0
Red.....	5
Bright red.....	10
Orange.....	50
Yellow.....	100
Green.....	200
Blue.....	500
Indigo.....	1,000
Violet.....	650
Ultra Violet.....	450

This, according to Harrison, is the ratio of the sensitiveness of silver bromide or the ordinary commercial dry plate, or perhaps the plate of a decade ago, as plate makers have for some time been more and more making their plates orthochromatic without saying anything about it; and various brands of such plates will show various degrees of departure from the table; each departure bringing them farther from, rather than nearer to the estimate of Dr. Kime.

Although the Doctor's experiment did not show anything of the action of the ultra-violet rays they do not allow themselves to be neglected, as, according to Ives, probably the greatest living authority on color photography, they play a greater part in photography than most photographers are aware. In a paper read before the Royal Photographic Society in April, on "Action of Violet and Ultra-Violet in Ordinary Studio Photography," he said, "The conclusion appears to be irresistible that in ordinary studio photography under average conditions, more than half the work is done by violet and ultra-violet light."

* * *

A photographic camp is becoming with some of our friends across the water an annual affair, and under the management of the energetic W. D. Welford it cannot fail to be a success. Last year it was on the banks of the classic Avon, which proved so suitable that it has been selected for this year's outing. The camp will continue for a fortnight, a fortnight's fun and frolic, including at least one lantern show in the open, and we hope more than one night's dancing on the green, the velvety green of Merrie England, and the inclusive cost will only be for gentlemen \$21.70, and for ladies \$15.90. Only distance prevents our begging to be allowed to join the merry party.

According to *Photography*, *The Tailor and Cutter* has again been visiting the Royal Academy and finding grave fault with some of its portraits, or rather with the carelessness or ignorance evident in the painting of the garments. Can it be believed—and surely *The Tailor and Cutter* should know, that in one case at least, one lapel of a coat is represented as being five times larger than the other? It is quite clear that those Royal Academicians have not listened to my advice of last year, urging them to learn from the professors of the sartorial art how such important items as lapels, buttons, and seams should be represented; as if they had they would have been spared the humiliation incident to the following:

A tailor looked at a portrait in oils
By an eminent A.R.A.,
And he glared and he scowled
And grunted and growled
As he scornfully turned away.
"The fellow can't paint a bit," he said;
"The buttons are not on straight!
If this is what folks call painter's art
I prefer a fashion plate."

or this, from Punch:

* * * * *
The tailor leaned upon his goose
And wiped away a tear:
"What portraits painting men produce,"
He sobbed, "from year to year!
These fellows make their sitters smile
In suits that do not fit,
They're wrongly buttoned, and the style
Is not the thing a bit.

"Oh Artist, I'm an artist, too!
I bid you use restraint,
And only show your sitters, do,
In fitting coats of paint;
In vain you crown those errant seams
With smiles that look ethereal,
For man may be the stuff of dreams—
But dreams are not material."

* * *

The Scotch saying "A little spark makes mickle wark" was illustrated in Fleet street, London, recently. In the office of the South African Exports during the afternoon, flashlight was employed the better to illuminate some objects that were being photographed, and a window was opened to allow the magnesium fumes to escape. An attentive policeman, believing the room to be on fire, turned in an alarm and in three minutes a fire engine appeared. This was followed at about minute intervals by a fire escape, three other engines, the salvage corps, and the usual crowd, which, as usual, seemed to come from nowhere but was difficult to disperse, especially as some of them at least were not slow to give expression to the feeling that they had been swindled. Why did the photographer not use the Flashlight-Bayer? As told in the last number of this magazine a stageful of actors was photographed by it recently, and although the exposure was made just ten minutes before the opening of the doors, the "smoke" was so trifling as to be unnoticed by the audience.

At a recent lecture before the London Camera Club by one who in his wanderings around the world had visited Canada, the following experience was told by the chairman as an example of western hospitality. He had been one of a party of English journalists invited by the Canadian Government to make a tour of the country, and the dinner referred to was only one of many almost equally indicative of the warm-heartedness of the Canadian. He and his party had been almost killed by the hospitality they met with, and he had been especially struck with the capacity of the people for listening to after-dinner oratory. At one dinner he attended they had thirty-six speakers, besides vocalists, etc., and he remembered wishing them farewell at 4.30 a. m., when there were twenty-four speakers who were yet to get on their legs. At a certain mining settlement, where they were very hospitably entertained by the Mayor and Corporation, it was the rule for no guests to leave until they tumbled under the table. They had had a hint of this custom, and resolved to be severely temperate. They had the pleasure of subsequently seeing the Mayor and Corporation feebly knocking at the door of the Town Hall in the belief that they were at their own homes. The reporter of the local newspaper afterwards extolled their remarkable feat in reversing the usual order of things and seeing their hosts prostrate. He had been much impressed with the vast resources of Canada. Richard Cobden long ago said, when he visited the country, that one day it would form a bounteous home for millions of the human race. They now saw that remarkable prophecy in course of fulfilment. They were now witnessing the gradual fusion of two of the most civilized nations of the earth—the French and the British—and he was certain that King Edward had no more devoted subjects than the French Canadians. There was the grand future for the country, and its development would not be brought about through the clash of arms, but through the music of peaceful labor and earnest endeavor.

But speakers as well as doctors differ, especially when the one speaks from knowledge acquired through experience and the other only through hear-say. To the latter class surely belongs Dr. Lyon who, in following the chairman, said that he considered that the climate in some parts of Canada was much against the development of the country. It was awfully cold in winter and terribly hot in summer. The country west of Toronto was not worth living in. In taking over the land we had allowed the French Canadians to retain their own laws, and in some places there was an iniquitous church rate which led to the people living in hovels, while the ecclesiastical buildings were sumptuous.

It has been my good fortune to spend the first half of this year largely amongst Canadians, many of them from far west of Toronto, and I only speak of what I know in saying that it would be difficult to make them believe that they have not about the best climate in the world, or who ever heard of being compelled to live in hovels because of church rates. It may be true that the French Canadians have to a considerable extent been allowed to retain their own laws, and if so, so much more to the credit of the "Mother Country."

"Fountain Pen" in *The Amateur Photographer*, criticizing some of the pictures in the Royal Academy's exhibition utters some words of wisdom that the pictorial photographer would do well to take to heart. Speaking of one of Leader's pictures, he muses thus: "Ah, Leader, as usual—nothing new—merely pretty—appeals to the new-rich man who wants something valuable to fill up a bit of empty space on his walls." But look again, my *blaze* friend. Isn't there a certain dignity about the thing; a sort of straightforward appeal to man's instinctive (but untrained) feeling for nature's beauty? It has no depth, someone objects. I'm not so sure that it hasn't, when you come to think of it. The plain honesty of a painting like this has a species of depth undefinable yet none the less real. Besides, what training, what craftsmanship it represents! Look at the consummate management of the clouds! A photographer would give his ears to be able to make a sky like that. There's no earthly reason why he shouldn't be able to either. It's a mere matter of practice—practice—practice, and an infinity of patience in, and love for, his craft. That's the little lesson we can pick up from this Leader. It suddenly dawns on you that here is a man who loves his work. Verily I believe that touch of lovingness is the unconscious cause of his universal success. It's intangible; you can't put your finger on it; but it is there somewhere. It's a thing that the camera man only too often lacks. Looking through a batch of pictorial photographs one feels that their taker is a mere hobby-rider. He's only mildly interested. Well, I say that that man will never be a successful pictorialist—never, until he begins to *love* his work. And then—mysteriously, but certainly—the work will betray that lovingness, and success will reach him. Turn again to Leader's "A Birch-clad Hill and Shallow Stream" (No. 502). See how it glows! See the *happiness* there is in it. Yet the scene is a simple one enough. Wherein lies the secret of its charm? Why, somewhere in the frank joy of its producer. He has discovered a lovely spot in nature, and he wants to show it to other people. He is glad that others should enjoy it as well as he; and he throws himself into reproducing it on his canvas with—well, I can only again use that word lovingness, because it is the solitary one I can think of which precisely expresses my meaning.

A little further on he finds a "Watt's" which starts him on another, but not less important track. Simplicity, one of the most important things for a photographer to learn, and what he says about it is well worth "pasting in the hat."

Simplicity and stateliness characterize G. F. Watts's "A Parasite." It is a kind of calm sermon. It makes no effort; it is unaffected; it relies on no grand color scheme, inasmuch as there are really only two colors in it. Yet it scores its point for these very reasons. The story it tells is readable at the very first glance; a fact which is due to its wonderful restraint. It says what it has got to say in a very few words. It omits, magnificently. Omission; oh, the power of omission! The world's greatest artists have gone down to their graves still learning how to omit. In the camera world it is the hardest lesson—while far and away the most important one. Omit, *omit*, OMIT—should be written in letters of gold on every photographer's work-room.

What becomes of all the new things that are from time to time introduced with flying colors and that are to revolutionize the particular branch of manufacture to which they are to be applied, but which, like the snowflake in the river, are as if they had never been? The latest is a new metal, or rather a new alloy, having for its base aluminium. According to a German technical journal, meiorite, the name of the new alloy, is proof against chemical action; is pliable; is one third the weight of brass and sells at the same price. It can be turned and spun, and what is best of all, is as easily soldered as any other metal. Surely this is good news for camera makers and opticians, and through them for photographers, as if these claims can be sustained, some of their loads may by its use be considerably lightened.

* * *

Another novelty of interest to photographers, also from Germany, is an artificial camphor, the "chlorohydrate of terebinth." It dissolves proxylene as does its prototype, and so may be as suitable as the vegetable article for the making of celluloid, an article coming more and more into use by photographers, with the result, of course, that the genuine article is becoming dearer and dearer.

Cheap artificial camphor will bring cheaper films, and cheaper films will bring us nearer the time when there shall be no more glass.

* * *

A reporter from the *Daily Mail* (English) has been interviewing some of the West End photographers and the paper prints some of the interesting as well as amusing replies. The following will amuse some of my readers: Langfrier's, I may premise, is one of the largest and most popular of the London studios. "Who make the best sitters?" Mr. Langfrier was asked. 'The English county people, without doubt,' he said. 'They place themselves unreservedly in my hands, and the result is'—he waved his hand round the room, where some beautiful photographs hung. 'The Americans know so many things, all about photography and just how they should pose. They have been photographed everywhere, they tell me; therefore they must know everything. Some are, of course, delightful subjects, but others—ah! they are too clever, and so I let them know everything, and they are happy. But afterwards, perhaps, I gently and very quietly get them to stand as I wish, so, and then they are pleased with their pictures, and say: "I knew they would be good. You see, I know how to stand." Ah, but the English—not the London, but the county people—are perfect. American women are often graceful, but the English—the English who do not live in London always—they are the best.'

* * *

In an article in *The British Journal of Photography*, on "Photography at Greenwich Observatory," I learn that as all the plates for the astrographic chart and catalogue have been taken, the energies of the department are being devoted to their measurement and reproduction. The method of reproduction is to make a glass positive of the required

size, by enlargement in the camera, and then to print from this by contact on *bromide* cards. Is any silver printing method sufficiently permanent for the purpose for which this work is intended? I think not, and cannot understand why platinum or carbon has not been employed instead. Surely the authorities who rule the destinies of the observatory know better than to be guided or rather misguided by the word "permanent" that was wont to accompany the advertisements of bromide paper. If my memory is not at fault, considerable excitement was aroused some time ago by the discovery that the stars on some of the star negatives had disappeared, and various methods were recommended to recover them or prevent further fading; and if that occur in negatives how much more likely is it to do so on the paper.

* * *

The Photo-Secession and the *Photo-Era*.—While the members of the Photo-Secession are quite able to take care of themselves I cannot help expressing my regret that the *Photo-Era* that has recently been doing so well, doing such admirable work indeed, should have not only permitted a contributor to speak disrespectfully of, and bring unwarranted charges against a number of highly respected men and women who are doing their best to advance the higher phases of photography as they see them; but also to editorially homologate the slander. We are each in our own little way doing our best, and although our ways may differ, differ even to the extent of parting as some of us see it, we are none of us covered with the mantle of infallibility, and so should be ever ready to credit others with the good intentions that we claim for ourselves.

NOTES.

Redeveloping Bromide Prints.—Bromide prints that have been over-developed, are of an unpleasant tone or color, or that are faulty in other ways, may often by bleaching and redevelopment be transformed into first rate prints. Of all the ways by which that can be done, the following, which we clip from *Photography*, has in our hands given the best results. It answers equally well for the ordinary bromide and "gas-light" papers, and for both over and under-development, and gives a fine warm black color. According to the correspondent who supplies the information the prints may be too dark, too light—it matters little, they are well rinsed in water, and then bleached in a solution of potassium ferricyanide five grains, water three ounces, ammonia ten drops. When the image has quite or very nearly disappeared, the print is given a short washing, and then developed with a solution of edinol two grains, acetone (or sodium sulphite five grains), water two ounces, ammonia five drops. It may all be done in daylight, without any risk of getting the prints fogged, and the new image comes up slowly, taking, as a rule, about one minute or a trifle longer, and development may be carried on to any degree of intensity. The presence of tungstic or molybdic nitrate, or hydroxide in the bleaching bath, he adds, gives slightly warmer tones but the action is uncertain. We hope to be able to revert to this subject somewhat more fully at a later date.

The Hill and Adamson Negatives.—From a report of the annual meeting of the Edinburgh (Scotland) Photographic Society we learn that in the course of the year they have received from an anonymous donor between three and four hundred negatives, once the property of the late D. O. Hill, and likely to be most or all that remain of the celebrated or classical work of Hill and Adamson. If so, we know that they came into the possession of George Panton, an active member of the Edinburgh Society, sometime in the early seventies, two of the best of which we were permitted to select and of which we are still the proud possessor.

While it has been again and again stated that those negatives, some on wax paper and some on calotype, and made in the early forties, probably between 1845 and 1850, or between 50 and 60 years ago, have never been surpassed and are not surpassed by anything done at the present time, they, or prints from them, have been seen by but few, practically none of the present day photographers.

It is now up to the Edinburgh Photographic Society to remedy this state of matters, and if they are made of the stuff of which the bulk of the earlier members were made they will try to do so. One way would be for the Society to put say a selected hundred of the negatives into the hands of some one who would make from them sets of prints in platinum or carbon, bind them into albums and supply them to such photographic societies and clubs as would subscribe for them, and at a price just sufficient to cover the cost. If we are not mistaken, there is not a society or club either on this or the other side that would not gladly subscribe for such an album and value it as their very highest possession, while at the same time the Edinburgh Society could lay the flattering unction to its soul, that it had done more than all other societies together for the advancement of truly artistic photography.

Exposure in Portraiture.—W. Thomas, a well known English writer, gives, in an article in *The Photographic News*, the following excellent advice regarding the exposure for portraits. One word as to development may not be out of place in conclusion.

"If portraits are being done, *expose for your shadows and develop for your high lights*—that is, you should so arrange the exposure that, on developing the plate, so soon as the high lights (such as the faces) are just dense enough to ensure due contrast in the print, but will still print with full modelling, the shadow parts ought to have also fully registered themselves. This cannot be if there is any real under-exposure, and it is useless trying to patch up such a case by forcing development. Far better to destroy the plate, do another, and either increase the exposure, work with lens at larger aperture, or employ a more sensitive plate, as the conditions suggest.

"Under-exposure in portraiture is destruction, total and absolute. Remember that always, and, remembering, avoid it as you would poison."

Beginning with a Hand Camera.—Having again and again said that it is impossible to properly learn photography with a camera in the hand we are always glad to have our opinion corroborated by those who know. The following is from an article by H. Wild, the honorable secre-

tary of the Tunbridge Photographic Association, published in *The Photographic News*: "The greatest mistake is to start photography with a hand camera, as it is more difficult to get good results than with a stand camera, and if the would-be photographer would only start, or at least serve an apprenticeship with a stand camera, he or she would not be so ready to give up photography after spoiling a few dozen plates." So say we, and add that those who *must* buy a hand camera should see that it is bushed for a tripod, never attempting to use it in the hand till they have finished their apprenticeship.

The Development of Stale Plates.—The editor of *Photography*, in reply to a question as to how to develop plates that fog from age, says: "Unless the plates have been absolutely ruined the following developer will bring out the image free from fog: Kachin, 4 grains; sodium sulphite, 22 grains; sodium carbonate, 22 grains; water to make one ounce. We have used this with plates three or four years old, which fogged with other developers, and got clear negatives." And he is not far wrong, as we have just developed some plates that have been on our shelves for over five years and got as good clear negatives as when they were made by a firm that came to grief shortly after that time. We may add that a plate developed with pyro immediately after showed fog all round the edges and for three quarters of an inch in.

Shutter Speed.—Here is a method of speeding shutters that we have not before seen. We clip it from the June 18th *Amateur Photographer*. Get two discs of ebonite about 6 in. in diameter. Drill a hundred holes at equal distances around the edge of one disc and one hole at the edge of the other, in such position that when one is revolved the holes will coincide. The disc with the hundred holes is fixed at the end of a box (or window shutter) in such a way that light passes only through the holes. The other disc is arranged to revolve backward, a complete revolution occurring in one second. A negative is now made, and the plate developed, the number of holes that appear showing the speed of the shutter in hundredths of a second.

THE STRAW THAT SHOWS.

As will be seen from our last two numbers, we have, since the beginning of July, been enjoying life by the sea and always with an interest in and eye to things photographic.

We are up and around early, generally the first of the hundred-odd under the one roof, even although many of them are camera carriers; but on the morning after our arrival we found that we had been forestalled. On the veranda, seated at a little table, were a lady and gentleman, the latter turning the crank of a DEVELOPING MACHINE, the former fastening by push pins the second of two films already developed to be washed by floating in the bath-tub. And they were really good; far better than the average of what may be called summer resort work, and there was a reason for it. Although the product of a hand camera, only two of the exposures were made *in the hand*, all the others with the camera *on the stand*, therefore they were both equally enthusiastic, having

become converts to the "sufficient exposure" theory mainly, we were gratified to hear, through the teaching of THE AMERICAN AMATEUR PHOTOGRAPHER, although they did not at that moment know of our connection with the magazine.

Later in the day we saw an excellent arrangement for drying films. Several pieces of wood that looked like a folding tripod easily took the form of a frame about the length of one and the width of six films. To this the washed films were fastened by push-pins and it was reared on end in any convenient place free from dust.

Speaking of the developing machine, our new-found friend said: "It is great, the greatest since the discovery of photography itself. Before we got it we developed our home work ourselves, but when traveling, and we move about a good deal, we had always to employ someone else to do the rest. Although we have a tolerably well equipped dark-room we dreaded the operation and rarely succeeded as well as we expected. With the machine development is a delight and the result certain, while the development of our work on tour is really less trouble than to pack and mail the films to others, and the result is immeasurably better."

That we thought was a good beginning in favor of the developing machine, and it was soon corroborated and strengthened. A day or two after another reader, this time a friend of long standing, arrived, and soon produced the usual bunch of prints and negatives, partly for advice and partly with a pardonable feeling of pride in showing them; and they really were a decided improvement on the work of previous years, a result, in his opinion, of the adoption of the developing machine.

"Yes," he said, "I know that my work has been decidedly better since I began to employ the developing machine, and there are two good reasons for it; the one directly, the other indirectly due to it. Indirectly the machine leads to a nearer approach to correct exposure. Just how it does so, I am not prepared to say, but I know that in my case, at least, it does; I have a feeling that as all the exposures on a length of film are to be developed together under the same condition and for the same length of time, the exposures should be as near as possible alike, and almost unconsciously find myself doing my best to make them so, trusting less to chance or guessing than formerly and more to the indications of the Wynne's meter which is now my constant companion.

Nor was this all. Interested in the machine, as our readers know from its introduction last fall, we were naturally anxious to know something more of its popularity and of the opinions of those who were using it than was possible during our residence at Clifton Springs, and so, during our first ten days at Point o' Woods we led up to the subject in conversation with everyone whom we saw carrying a camera, the result being that of thirteen, five had been using it, and two, in consequence of what they had seen here, were to send for them.

There is no doubt, to quote the expression of our new found friend, the developing machine "is great," and with improvements already made and others yet to come in the films, both machine and film have a great future before them. The straw points strongly in that direction.

A RESEARCH LABORATORY.

The Royal Photographic Society of Great Britain has been celebrating its jubilee, the celebration including a reception and conversazione; a congress, at which a number of interesting papers were read; and the never to be omitted dinner. By far the most interesting item of the celebration, however, was the "Jubilee Address" by the President, Sir W. de W. Abney, K. C. B., a plea for the establishment of

A PHOTOGRAPHIC LABORATORY FOR ORIGINAL RESEARCH.

The President of the Society has one duty to perform annually, and it is, perhaps, the most difficult task that falls to his lot. The duty is to give an address which shall deal with some subject of photographic interest. On this occasion the task is more than usually difficult, as a long address is not permissible, and the fact that this Society is celebrating its jubilee renders inevitable an allusion to it. In connection with it I, perhaps, ought to touch upon the earlier history of the Society; but to night I feel that I must confine my remarks to something quite different—a something which I hope may mark this year as one of promise for great advances in photography.

Looking back to the first day of this Society's existence, one is forcibly reminded of the advances that have been made, not only in the science, but in the art of photography; and, as an early worker, I am familiar with every stage of progress which has taken place during the last forty years, more particularly on the scientific or technical side; but these advances, I think, might have been more rapid.

A very brief comparison of the processes existing now and fifty years ago will show what I mean. Paper processes, founded on the original process of Fox Talbot, were well to the fore fifty years ago, although in 1851 Scott Archer had shown to the world the practicability of taking photographs on glass by means of collodion. In that same year, when the First International Exhibition was held calotype, Daguerreotype, and collodion processes were all worked commercially and photographs of the interior of the Palace by all three processes are in being to-day.

At the present time it may be said that, for all practical purposes the gelatine process for taking negatives has complete possession of the field, and ousted all processes which have led up to it. Negatives fifty years ago were impressions only given by the violet and blue rays existing in white light, and the resulting prints are such as would be seen by a person color blind to the red and the green, while now it is not uncommon for the photograph to be made to coincide with visual impression of an ordinary eye.

There seems but little doubt that the photographic image remains of the same nature now as it was then, and whatever may have been the action of light then, so it is now; but the necessary exposure to obtain a properly developable image was at least sixty-fold more than is required for our present process, even when the collodion process was employed, where every condition remained the same except the sensitive surfaces themselves. With the Daguerreotype process, perhaps, we should have required ten times more than for the collodion, though we know of instantaneous work being done even with that process. Open-air portraiture gives a good idea of the relative times of misery which the patient had to undergo then and now. The early Daguerreotypist required half an hour in bright sunshine, while the modern amateur will be content with a second or a fraction of a second under the same circumstances. A question naturally one asked is, What causes the difference?

As far as I am aware this question has not been fully answered, and yet it might have been had serious experiment been undertaken regarding it.

From a theoretical standpoint there are three things that have to be taken into account: 1st, the sensitiveness of the silver salt itself; 2d, the mediums in which it is placed; and 3d, the means of development. We have some clue to the last two. Beginning with the last first, those who practiced Talbotype or the wet collodion processes know that in both of them the developing solution was an acid solution reduced from nitrate of silver, which was on the surface of the plate or paper, to the metallic state, and that there was some attractive force which caused the

metallic silver to adhere to and crystallize on particles of sensitive salt which had been acted upon by light. In the gelatine process we know that development is with alkaline solution, and that the image is built up from the very molecules themselves that have been acted upon, the sensitive salt itself being reduced to metallic silver. Why should development be effected more easily in the one case than the other? In the case of the acid development the distance of the particles of reduced silver from the molecules altered by light are far greater than they are when the material of the plate is attacked, and that, consequently, a smaller attractive force, due to fewer molecules being altered in the latter case, is more efficacious to producing a silver image than in the first case, where the depositing silver has a considerable distance into which the attractive force has to be exercised. This might be an explanation. Or, again, it may be shown that a gelatine film, being a kind of filter to the developing solution, acts as a regulator in allowing the active alkaline solution to reach the particles of silver salt, and that this regulated supply would attack the molecules on which light had done part of the work of decomposition, and reached the remaining part most readily to be finished and so on, and that very little external retarding influence was necessary. But now, what is to be said regarding the increased instability of the sensitive salt? This is a question not yet investigated, but it is from such an investigation that increased rapidity is to be looked for.

I might offer my own personal ideas, which I might believe to be perfectly sound, but there are others who may look at the matter from a different standpoint. And how are we to prove who is right? I think that there is only one manner of proof, and that is by experimental research which shall lead to such direct or circumstantial evidence as to commend itself to the minds of all thinkers.

But, gentlemen, it is one thing to say that proof is required, and it is another to have the opportunity of making such proofs, and I should urge that it is part of the duty and functions of the Royal Photographic Society to lead the way, in placing such means at the disposal of its members and others as will enable any of them who have the capacity to experiment in this and in any other directions which will lead to a theoretical knowledge of the action of light. In the last address by our President, Mr. Dallmeyer was very pronounced in his opinions on this subject, and I may say that my views are as pronounced as his. We ought to establish a research laboratory well fitted up and provided with means for carrying out special researches. We could then approach the Government Grant Committee of the Royal Society, and might hope to obtain aid from the grant given by Government for experimental research, supposing the class of research had been approved and recommended by competent authorities.

It must not be forgotten that there are a great many more men with minds trained to scientific research now than formerly. There is, alas! a bar to scientific work imposed on many who would be able to do much owing to limited means and limited time. The latter limitation is not so formidable as the former—I never saw a busy man who did not find time for some scientific work if he had the means for prosecuting it. If a laboratory were always at hand, the time which a capable man devotes to research, he is now almost compelled to devote to some form of recreation or amusement (as reckoned amusement by the world at large), he would devote to relaxation of a scientific character. As I said before there are plenty of would-be capable workers who cannot afford a laboratory of their own, and what I should wish to see in this our jubilee year is the commencement of the formation of a research laboratory adapted to the needs of the scientific workers.

I have heard it said that such a laboratory is unnecessary, that instruction in photography is given in the various polytechnics and institutions, and that the London Technical Education Board are doing all that is necessary. What has been done in this way has been well shown in your late President's address last year.

I can bear witness to the great utility of the instruction given in these institutions, and to the high class of knowledge that is imparted. But this is not sufficient; it is just where the work of the institution ends that the laboratory whose formation I support should begin.

We have many capable students who could and would work at research—students who have distinguished themselves in the photography examinations by taking honors, but who have to earn their bread in other walks of life. It is the

best of these trained workers who, if given a chance, would not only benefit science but benefit trade as well.

Progress is a question of money, but rapid progress is a question of science and money. The negatives are the photographic trader's capital. He gets them and wishes to turn them into money-earning articles, so he spends money on experimenting.

Silver printing processes as existing fifty years ago were not quite identical with those now practiced, but they were the same in principle. Photo-engraving had been shown to be practicable by Fox Talbot in my early days, and at the present time it may be said to have been brought to a state well-nigh bordering on perfection.

Photo-lithography, so splendidly executed now, was in its infancy at that early date, and the idea of blocks for printing with type is quite a modern invention. Collotypes and printing from gelatine surfaces were unknown, and, although printing with salts of iron and uranium had been worked successfully, the beautiful platinotype process had to be discovered. It will be seen that the advances made have been great, but one may expect that in the next fifty years a still greater advance will be made. However, we have now a rising generation of men who have been trained in scientific methods. The advances that have been made have been principally in those directions where money has been expended and a good return possible. I should say that the expenditure required in the future will be less than in the past, as much of the experimenting has been of a fishing nature and based rather on the worker's instincts than on knowledge.

What we require is a still further training in pure science in those who will afterwards be workers for trade purposes, and it is by the study of theory (much as such study is pooh-poohed by the *practical* man) that fresh fields will be discovered.

One branch of photographic science is the optical, and in it we have an example of what laboratory and experimental research can do when workers are trained in scientific methods. Not many years ago the optician was challenged to increase rapidity of exposure by increased rapidity of lens. Nobly and rapidly he has responded. The advent of Jena glass enabled him to comply with the demand, and we have been getting definition of image with ratio of aperture to focal length which would have been deemed impossible not very many years ago.

It must be recollected that photography is in a somewhat peculiar position. The professional photographer has to study the art side, and it is principally the amateur who looks at the scientific side. Compare photography with electrical engineering and we shall note the difference. Students may obtain theoretical instruction in electrical engineering at the same institutions at which they obtain instruction in photographic science, but the former are drafted into works where are workshops always available for experiment, and the amateur finds but little place in this applied science. The laboratory is part of the business—not so with the photographer.

I do not believe a laboratory would be an expensive matter to start. I am a great believer in cardboard, laths, and wire for making special apparatus. What I do advocate is to have all essentials of all instruments of first-class workmanship, and to leave the adaptation of any instrument from one special work to that of another to the worker. Hence, if my views are carried out, the initial expenses will not be as great as might be supposed. Space is the foundation of all research in photography, and that is what the Royal Photographic Society can supply; and then comes the provision of the apparatus necessary to use in such space.

There is yet a plea for external aid to carrying out this project that I would put forward, and that is that there are no branches of science—and, I suspect, very few industries—which do not owe a large debt of gratitude to photography, and it would be to their advantage that they should support this movement. The general public also find their amusement in photography, and it is to them also that we must look for practical aid in this matter. But, gentlemen, we must help ourselves first, and then others will help us.

I have heard that one generous man will give £100 to the laboratory if £900 more are raised. The £1,000 would go a very long way towards what we want to start with, and I hope the members of the Society will resolve to give substantial help in raising this £900. The jubilee of the Society should be marked by some important piece of work, and no bigger one and more requisite is to my mind to be found than starting such a help to the advancement of photography.

OUR PORTFOLIO.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Point O'Woods, Long Island.

1631. Sena M. Shrimpf.—"Warm Meals at all Hours," a sow, with six or eight piggies at dinner, and a hen watching interestedly and cautiously moving forward as if anxious to know what it all means, is hardly amenable to criticism from a pictorial point of view, and as a record of fact might have been considerably better. Sharpness should be an important feature in a record, and here it is so wanting that it is difficult to say just how many pigs there are. Then, while the pigs and the hen include all of interest in the print, they occupy only a very small space, the rest, although of no importance, catch and keep the eye from that on which it ought to rest. A lower and closer point of view would have given you a better reproduction; and the trimming of one-third from the top of this would be a decided improvement. Three-quarters of an inch from the right would also make it better. You have done fairly well for the time you have been at it, but you must learn that simplicity is the main spring of pictorial effect, and that it is more important to learn what to keep out than what to let in.

1632. Jules A. Bourquin.—"Chinese Lillies." Flowers, although the lowest kind of art, are, when well rendered, very beautiful, but they are not well reproduced here. The lighting has been uneven and the exposure so short that to get the faint detail on the less lighted side the other has been developed to simply white paper. In flower work the background is of vast importance, and the dead black, for this at least, is about the worst you could have chosen. Try again; use a yellow screen and a reflector, so as to get something like uniform illumination; and with a gray background.

1633. G. A. Holly.—The unnamed print, apparently the bend of a river, does not appeal to us as a good rendering of the subject should. The large triangular foreground is a meaningless mass of black, while sky and water, except where some shadows fall on the

latter, are only white paper. Suppression of detail on such small prints is rarely advisable, and it certainly is not so here. Focus better and expose long enough for shadow detail to come before lights of all depths are developed to equal opacity in the negative.

1634. F. F. Sornberger.—"A Rural Landscape" is an excellent selection, but its reproduction is lacking in the necessary contrast to make it effective. It is all over a uniform gray, without objective point or any one object of more importance than another. A different lighting might have been better, anything rather than the darks and lights such as they are, equally scattered all over the print. We say "such as they are" because they are neither darks nor lights in the true sense of the word, but only grays. The arrangement and composition are better than the photography.

1635. W. D. H.—"The First Tracks," a snow scene owing any virtue that it has to the snow, it being one of the many that would not have been considered worth a plate but for it. The snow, however, is well rendered, the lights and shadows having only one fault, their horizontal repetition; showing that the time, or the position of the light was unfavorable for a truly artistic rendering. Another fault is the unnatural blackness of the trees, the result of considerable under-exposure. While it is true that trees appear darker in the presence of snow, they are never so black as you have made them; in point of fact, there is no black in nature, the blackest object appearing more or less gray.

1636. Irving K. Park.—"The Maternal Instinct" is in subject, 'placing and conception admirable; but the lighting has been too flat, too much in the front, resulting in a uniform monotonous gray without either light or shade in the true sense of the words. But in spite of that it is a very pretty picture and one that the oftener we go to it the better we like it. An inter-



esting child holding in her hands a bird that we like to think disabled, and with an admirable expression of love and pity on the pretty face that could hardly have been evoked artificially. Except as already said, for lack of a little contrast in the light and shade, we have nothing but admiration for the picture; but without expressing an opinion on the suggestion, we should like you to try the effect of a different trimming; changing from a picture of the ordinary shape to a narrow panel. Trim or cover one inch from the left and three-quarters from the right, and keep looking at it till you get accustomed to the change. We do not care to say that you will find it an improvement, but it is worth a trial.

1637. John H. Scott.—“The Poet's Grave” is of sentimental interest only, and should have been much sharper the focus being so imperfect as to make reading the inscription impossible. The arrangement is probably the only one that could have been made, and the only, but at the same time serious, fault is the want of focusing.

We notice what you say about the plates, and think it says much for Cramer's method of packing that they are so good after two long voyages and over a year in such a moist climate.

We notice the print from a technical point of view only, as it is neither pictorial nor picturesque; and, as we have said, but for the faulty focusing you have done the best you could.

1638. C. P. Rice.—“Canadian Birch” is a fine illustration of “the beauty of simplicity”; a birch triplet three trunks from one root, towering above its surroundings as if saying, “In union there is strength,” while springing from near the roots are several saplings which by their winding round the parent stem seem to remind us of the fact that to support the weak is one of the duties of the strong.

It is also a good example of the value of subordination, the definition of all else being such as not to attract attention, while, at the same time, it contains food for thought if it is looked for. The slight indication of atmosphere in what may be a path through the brush on the right is a beauty that might, by a slight local intensification, be made still more charming, and more suggestive of the desired path. Altogether, it is an attractive picture and fine photograph.



1639. Rev. S. S. Conger.—“June Meadow” is a pretty rather than fine subject, one that charms the eye at the first glance, but has no growing power. A foreground of daisies (Marguerites), a middle distance of trees held forward



by a fairly satisfactory atmosphere; but all in such false values as to make it one of the "might have beens." A too short exposure and consequent over-development have made grass and daisy stalks as white as the flowers themselves, as is indeed everything in direct light, while where shadows, more or less luminous, should have been there is little more than deepest darks. For such a subject there must be sufficient exposure to enable the developer to bring out the necessary detail on, say, the trunk on the extreme left before its nearest neighbor, now perfectly white, is not more than a half-light.

1640. E. H. Royce.—"Reflections" is a good photograph of an impossible subject; one of those that look well in nature, but in photographic representation are simply ludicrous. Nor has this a redeeming quality, as it is almost impossible to tell which is right side up, and includes absolutely nothing but a series of vertical lines from top to bottom, not one of which is more of importance than another. It is an utter waste, from a pictorial point of view, of both good photography and good material.

1641. Henry Popp.—"The Long Shadows of Afternoon" is worthy of a

more suitable title, or at least does not deserve to be so handicapped by this. We naturally look for the shadows and find only the long lines from the principal tree, but cannot see the source from which they come. It is a fine example of landscape work, however—one of the best that has come for a long time. The lines around are of course a matter of taste, but if you cover them up, as we have just done, we think you will find that they are not an improvement. They are too pronounced, and tend to attract and keep the eye from the picture within. If lines *are* to be made, they should be lower in tone than the enclosure and never crossed at the corners in the style known as "Oxford," and as they are here. Printed in greenish carbon this would be something of which you might well be proud.

1642. C. C. Tyler.—The technique of the "girl's head" is good of its kind; that is, as an effect of light and shade, soft and satisfactory. The pose, or rather, position, however, is, to us, objectionable, conveying the idea of more or less malformation—as if the left shoulder was drawn out far beyond the natural size, while the right seems as if correspondingly shortened. Trimming in this case is not an improvement, the untrimmed being the better



of the two. Briefly, the photography is better, much better than the posing. See "Answers."

1643. C. G. Hass.—"Study" may be a woman with a wrap of some kind around head and shoulders, but to make even that out takes a lot of guessing, there being only the slightest indication of folds on which the light has fallen. And of those folds there are only an inverted staple round the head and a line where the right shoulder ought to be. Under the staple-like line appears a portion of a face and above it a touch of light that is, we suppose, the hair; and all the rest of the $4\frac{1}{2} \times 2\frac{3}{4}$ is simply and purely black, or rather a dark brown. This

is all we saw at first, but on longer looking we seemed to see something more, not tangible, but something that grew and grew until we began to think that the print wasn't quite the foolish thing of the first impression. But it is not with the photographer as with the artist of the brush. The latter can, sometimes at least, modify the expression, but the former must take just what his model brings, and you have not been fortunate in the model, or in this particular expression, as, to us at least, it is meaningless. You are on the right road, however, and if you can succeed in eliciting the kind of expression you want, and be at the same time just a little less reticent you will do good work in this line.

OUR TABLE.

Books for reviews and apparatus and material for examination and report should be sent to Dr. John Nicol, Point O' Woods, Long Island.

Negatives Wanted.—It may be of interest to some of our readers to know that the American Aristotype Co. are on the lookout for good 5×7 view negatives, either landscape or marine. As they will use these negatives for advertising purposes they must be of good Platino quality—clear shadows and snappy high lights. The view must be *attractive*—something that will catch the eye. Should our readers have negatives of this character which they wish to dispose of, we would suggest that they send proofs and price to the American Aristotype Co., Jamestown, N. Y.

* * *

The photographic fraternity will be interested in the fact that by mutual agreement with the Acetin-Gesellschaft fuer Anilin-Fabrication, Berlin, the Berlin Aniline Works of 213-215 Water street, New York, have been appointed sole importers to the United States and West Indies, for their celebrated "Agfa" photographic articles.

These include the developers, Rodinal, Imogen, Paramidophenol, Amidol, and Eikonogen, the last two also put up in cartridges, and their specialties Agfa-Intensifier and Agfa-Reducer. It speaks well for these articles, that in the past they have been introduced into this country entirely on their own merits.

The Reflex Camera Co. send us their new catalogue of Reflex cameras and focal plane shutters. It shows in detail the various models of this camera which has obtained a world wide reputation for high speed work, and gives a complete price list of all styles fitted with any of the modern lenses, specifying also the shortest and longest focal length of the lens that can be fitted to any model. All those who desire to possess a camera adapted for the fastest work should send for a copy of the catalogue.

* * *

The Conley Camera Co. have introduced a useful novelty in the success photo holder. It consists of a neatly finished rod of nicked brass on which are spring clamps which firmly hold the edge of the mount and permit photographs to be festooned on a wall or stood on a shelf or bracket. It sells at a moderate price and all dealers should have them in stock.

* * *

G. Gennert sends his catalogue of Montauk Cameras, and we call the attention of buyers to same, also the Passy tripod, a light, rigid, and medium priced article advertised in this number. In answer to several inquiries, we would say that carbon tissue in 13 colors and all requisites for carbon printing may also be obtained from this firm.

The Photo-Miniature, No. 50, deals, in its usual thorough way, with "Studio Construction," a subject not particularly interesting to the average amateur, but, at the same time, one from which he may get some useful hints. One especially, on which we have again and again written, refers to the employment of a lens of sufficiently long focus for portraiture, is more than ever timely, the amateur more than ever taking to that branch of photography.

The author says, "The question of the focal length of the lens will often determine the length of the studio. The untruthfulness and distortion arising from the use of lenses too short in focal length are becoming more and more obvious, so that the tendency is toward the use of lenses of greater focal length than those hitherto employed."

In order to avoid disagreeable distortion in the portrait, it is necessary that the lens used should have a focal length equal to twice the longest side of the plate to be covered. For accurate drawing in large half-lengths or bust portraits, it is desirable that the focal length of the lens should be three times the longest side of the plate used. The monograph is profusely illustrated with drawings and plans, and the pictorial illustrations, of which there are eleven, show Gertrude Käsebier at about her best, and are alone well worth the cost of the magazine.

* * *

The International Studio for June.—Opening with an article on the Art of the late Giovanni Costa, by Olivia Rosetti Agresti, giving an account of the great Italian artist's work, and showing what is lost to the field of modern Italian art, by his demise, the International Studio for June continues with a discussion of the architectural designs and exhibits of the Arts and Crafts exhibition. This subject is fully illustrated with a profusion of half tones, from which readers will find a host of suggestions for the arrangement and furnishing of their summer residences. It is probably little known by the public at large, that already so early as the Seventeenth Century, three-color printing was in process, the master of the art being Jacob C. LeBlon, a German, whose pioneer work in this field is equal to

much of the best work done to-day. The article shows colored reproduction of his famous "Narcissus," together with a number of black-and-whites of other famous plates by the same artist.

This is followed by an article on the work of Mr. and Mrs. J. Young Hunter, by A. L. Baldry, and, further, by a beautiful illustrated monograph by M. H. Baillie Scott, on some experiments in embroidery. The number closes with the usual Studio Talk, from all over the Art World. The June Studio is particularly rich in full-page color plates, of which there are five, together with one mezzotint.

Edinol.

Our attention has been called to an extract from the *Photographische Wochenblatte* that appeared on page 212 of our May number, in which doubt seems to be implied as to the keeping qualities of edinol in solution, or developing solutions in which edinol is the active agent; and as the statement had escaped our notice we thank our correspondent for the opportunity of saying that it is altogether contrary to our experience.

We have used edinol almost exclusively for about eighteen months and spoken of it over and over again in the magazine, frequently mentioning its excellent keeping quality even in one solution developers as making it peculiarly suitable to the amateur who only develops occasionally.

During the first week in October after coming to Clifton Springs, in preparing material for experiments during the winter, we made up ten ounces of a stock solution as follows:

Edinol	240 grains
Potassium metabisulphite....	120 "
Sodium Carbonate.....	800 "
" Sulphite	400 "
Potassium bromide.....	40 "
Water	10 ounces

For use as a normal developer one part of this was added to seven parts of water, more or less, according to requirements; and no more useful or efficient developer could be desired. The bottle still contains about a fourth of the original quantity; almost as colorless as when made—a pale straw, and has lost none of its developing

power, as was shown by the development of several negatives and lantern slides a few nights ago.

Other solutions with sodium sulphite, acetensulphite, etc., have been pre-

pared and used from time to time in the development of films, plates, paper, and slides, and whatever other qualities edinol may or may not have, there can be no question as to its "keeping."

LETTERS TO THE EDITORS.

The New Developer.

DEAR SIR: Desiring an ideal developer, I try them all as they come out. In the June number of the *AMERICAN AMATEUR PHOTOGRAPHER*, page 257, "metoquinone" is mentioned and the way to make it indicated. I enclose a print from a negative of a neighboring home taken at 5:30 p. m., with an exposure of 1-25th of a second at f-8. Both negative and print (velox) were developed with the same solution, containing no alkali but a little bromide.

I made saturated solutions of hydroquinone 100 grains, and metol 200 grains, mixed them and added a saturated solution of sodium sulphite, and in less than a minute crystals began to form. These I simply drained, having no time to dry them, and dissolved in water, guessing at the strength, of course. If not a new chemical it certainly is a new arrangement of the molecules, as the action is very different from either of the developers separately or in combination. It does not stain the fingers and remains clear after prolonged use, and while the action, as might be expected without the alkali, is comparatively slow, the result both as regards gradation and density is all that can be desired.

So far as I know, metoquinone is not yet on the market, but I thought you might be interested in what I suppose to be the first trial of the new developer.

Yours faithfully,

G. W. ALLYN.

[Uncle Sam's messengers, as usual, made sad havoc with the negative, although we found one piece large enough to show that it had all the qualities incident to a first-rate printer; perfect freedom from fog, steep gradation, especially in the lights; and just the right degree of density. And the prints show that the qualities of the negative

are taken advantage of to the full. Good prints from a good negative. Eps.]

The Keeping of Orthochromatic Plates.

DEAR SIR: I believe much has been said and written in regard to the inferior keeping quality of orthochromatic plates. Three years ago on a trip to Yosemite I purchased a number of boxes of Cramer isochromatic plates for use in the Valley. One box of these plates was not used and on my return was placed in the bottom of a trunk, and forgotten. A few days ago, in making preparations for another trip to Yosemite I ran across these plates, when it occurred to me that here was an opportunity to test their keeping quality. Accordingly I set up the camera and made an exposure, the result of which you can judge from the print herewith enclosed.

I believe this thoroughly explodes the theory that ortho plates will not keep, for this negative and several more from the same box are apparently as good as others of the same emulsion number that were exposed and developed three years ago.

Yours very truly,

W. E. COGSWELL.

[The print accompanying the letter, so far as a print can do, bears strong testimony to the keeping quality of the plates. The subject, a fiddle and bow laid on a sheet of music, conveys a feeling of perfectly truthful values, and true rendering of every degree of gradation in a trying subject. But as regards "The theory that orthochromatic plates will not keep," we think that it has been exploded long ago. Some six years ago we reproduced some prints of excellent technique from Carbutt's orthochromatic films that we had had on a shelf in our dark room with no other protection than the cardboard case in which they came for longer than we

could remember, and on reference to the maker, giving him the emulsion or the packing number, it was found that they were five and a half years old.

Let us say here what we have again and again said; with orthochromatic

plates and films that cost no more than those that are not, and that keep in every respect as well as ordinary plates and films, we cannot understand why they should not be universally used. Eds.]

ANSWERS TO CORRESPONDENTS.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Point O'Woods, Long Island.

Copying with Ordinary Camera.

CHAS. HATHAWAY.—Any ordinary lens in a focusing camera will answer for copying a cabinet photograph to 2 by 2 inches.

GEO. L. SMITH.—You cannot focus the medal to the size of itself because the camera is too short for the lens or the lens too long for the camera. To copy the size of itself the camera must have a draw of twice the focal length of the lens, so that you must either get a lens of shorter focus, make an addition to the draw of the camera, which may easily be done with a cardboard tube, or shorten the focus of the lens you have by the addition of a supplementary magnifier.

Photographic Copyright.

A PRO.—If you are a constant you are not an observant reader, as we have answered your question at least a dozen times. The company employed you to make for them fifty copies of the machine and paid you your own price for them, and there your connection with the matter ended. The cost of making the negative was or should have been included in the price, just as the cost of setting up the type for the printing of this journal was included in the price charged by the printer for printing it; and the glass of the negative is your property as the type is his, but you can no more use the negative to make other prints than he could use the type to print other copies of the journal. The copyright in the negative of the machine belongs to the company and the fact that they have not registered it does not give you the right to do so, and consequently your registration is not worth the paper on which it is written; and any attempt you make to prevent them from introducing half-

tones from it into their catalogue will fail, as it deserves to do.

Time Development.

HENRY DOBLER.—The advantage of a factor of six in time development should be self-evident. It saves figuring, as it is only necessary to divide the time of appearing by ten, placing a point between the last two figures, and call the result minutes. Thus, if the time appearance be thirty-five seconds a point between them, 3.5, is three and a half minutes. Surely nothing can be simpler or more easily understood.

Adding a Background to a Portrait.

(Miss) R. H. W.—(1) Our only objection to the hand camera is that it is used in the hand by those who do not know its limitations and who consequently waste both plates and paper, but who, if they would use it on the stand till they had acquired the necessary knowledge, might be a credit to themselves and give pleasure to their friends. (2) The simplest way of cutting off top light when taking portraits in the open that we ever saw was an old umbrella with the handle cut off, suspended from the branch of a tree. (3) It is quite possible to furnish the portrait that cannot be again photographed with the desired background. Make a print from the negative but do not fix it. Carefully cut out the figure and expose both it and the background till quite black. Next make a negative of the background you wish to put in, placing a friend for the moment in the place you intended the figure to be moving the camera till it is the size of the portrait. Of course the friend must be removed before you make the exposure. Then make a print from the portrait negative, using the cut out of the first print as a mask, which will give you a portrait on a white background. Next

cover that portrait with the cut out figure or perhaps better still, paint it over with gamboge pretty thickly laid on, and again print, this time under the intended background negative. Before toning and fixing wash the gamboge off the print, and if you have managed well, and it is easy so to do, the junction between the two printings will be invisible; or if it is visible, a touch with suitable color will make it all right. (4) We hardly care to advise, but for a lady anxious to turn photography to account, but who is too shy to have much dealing directly with the public, we think there is a specialty, almost an unoccupied field, that she could adopt with strong probability of success. It is the making and supplying of cloud negatives; and dealing directly with the stock houses, or through the mail with amateur or other photographers. For information as to how that may be done see an article on another page of this number. (5) Never hesitate to ask questions; our only aim in editing the magazine is to be helpful to those who think they know less than we do, and what we do not ourselves know, we can generally find one who does.

Home-Made Paper for Large Prints.

G. GORDEN-STABLES.—For printing from your enlarged negatives nothing is better, in fact nothing is so good as carbon, especially as you can select just such colors as will best suit the subject; but if you *must* have a printing out paper and one that you can make yourself, the following, which we clip from *Photography*, will be found admirable. We may add that the pint here mentioned is the imperial of twenty ounces; and that variation in the proportion in the quantity of the potassium bichromate will to a certain extent vary the tone or color of the print. For Vandyke browns two stock solutions are necessary—one containing to the pint of water four drachms of sodium phosphate, eight of borax, and one of common salt, to which when filtered ten grains of potassium bichromate are added; the other containing one ounce each of silver nitrate and lead nitrate to a pint of water. The paper selected is first soaked face downwards on the first-named—the “salting”—bath, for from three to five minutes, and when dried may be kept in stock indefinitely. Care must be taken that no air bubbles remain on the

surface, and to prevent any chance of this each sheet should be removed after a few seconds, and wiped over with a camel-hair brush. When any paper is required for printing, the above stock is merely sensitized by floating it upon the silver-lead bath for a couple of minutes. It is dried in the dark, and then printed in sunlight. Without any toning, the picture is immersed for five or ten minutes in a ten per cent. hypo solution containing a little salt, or potassium sulphocyanide. A trial of such methods as these generally leads the photographer to think that if he goes in at all for large “impressionist” work it is not by any means a bad plan to prepare his own æsthetic paper.

Hypo-Eliminators.

ARTHUR STARK.—“Please tell us what is the best hypo-eliminator. Most of my prints grow yellowish after some weeks, although I wash them in ten changes of water, and you have often said that eight was enough.” We give this question in full as it is one that comes often and the fault may generally be attributed to the same cause, insufficient fixing. There is no better eliminator of hypo and no other necessary than water. Peroxide of hydrogen, chlorinated lime, and other chemicals have been recommended, but they all simply convert the hypo into something else which, without sufficient washing, remains in the paper, and the last is often worse than the first. Washing that will remove the aftermath of the eliminator will remove the hypo; and a properly fixed print, that is, one which has had from ten to fifteen minutes in the fixing bath, and then washed in eight or ten changes of water, especially if drained for a few seconds between each change, will never fade or change from the presence of hypo.

Portable Developer.

R. BRUCE.—An excellent developing powder for your proposed tour may be made and packed as follows: Edinol, 150 grains; Acetone sulphite, 120 grains; Sodium carbonate dried, 120 grains. The soda may be dried in the oven at a gentle heat, and till it falls into a white powder. Mix well by rubbing up in a mortar or otherwise, and then divide the whole into ten parts; you can do that well enough by the eye. Each powder is sufficient for four ounces of water, the quantity you say you require for your 7 x 5 plate.

The powders may be wrapped separately in paraffin paper and each ten in tinfoil, but a better way is to employ the capsules to be had at most drug stores. Ask for fifty-grain capsules, each consisting of two parts, the capsule proper and its cap. When the capsule is filled slightly moisten it outside near the mouth, and slip on the cap. Powders thus packed will keep for months, and when one is to be used the easiest way is to give the capsule a tap on the table so as to shake the powder to one end, the cap end, and then, with a sharp knife cut off the bottom. We saw some capsules a few days ago that had been to Egypt and back again, and the powder within was as good as when packed.

HUNTLY BRYSON.—Thanks for good words and for appreciation of former help, but we cannot help you in this. The "Tintype on copper" was a daguerreotype, one of the most beautiful, but at the same time most delicate of photographic productions; and the "wipe with a soft cloth" has ruined it. The image consists of a deposit of mercury, and when that is removed nothing can replace it. Yes, send them on, so long as you are a reader it is immaterial where you get the magazine.

(Miss) **E. G. RICHARDSON.**—From your description it is evident that your exposures are for too short. It is worse than useless to attempt indoor portraiture by shutter exposures. See note on exposure in "Notes" on another page.

WM. BUTLER.—Your letter is an advertisement in disguise. What better would our readers be to know that you say that you can print and develop ordinary printing out paper at the rate of two dozen per hour if you do not tell how it is done? When you tell how you do it we shall be glad to print your letter.

Indelible Ink.

(Mrs.) **S. W. GRANT.**—A "Black ink suitable for the hundred and one photographic purposes" is rather a big order, but the following, which we clip from *The Photographic News*, will answer for a good many of them: "A good black ink which cannot be readily removed, and which is not soluble in water, is useful for writing the names of solutions on bottles, and for blacken-

ing the interior of cameras. This may be made by dissolving 60 parts of shellac in a solution of 30 parts of borax in 360 parts of water. Filter the solution, and add enough gas-black to make an opaque ink. The best way is to pour a little of the solution into the black, making it first into a paste, and afterwards thinning it out gradually with the remainder of the liquid. Once the ink has dried it is practically insoluble. If enough lamp-black is added, the ink will dry with a dull surface, and in that state is suitable for painting the insides of cameras and other photographic apparatus. If, in addition, a small quantity of fine emery is added, the ink may be used to repaint blackboards with. In a more dilute form the ink is excellent for making line-drawings."

Orthochromatic Screen.

HARRY BOTHWELL.—See article on clouds, their making and printing in, on another page. The screen that we have found best is a greenish yellow made for us by Mr. Carbutt some years ago, but a yellow or slightly orange, of a shade that will require about six times the exposure that would do for the kodoid plate without it, will answer very well.

Some Workroom Troubles.

C. C. TYLER.—There is nothing wrong with the negative of the speed tester but over-development. The deposit on the surface of the film was easily removed by rubbing with an alcohol moistened tuft of cotton. The negative of the children is, to begin with, very much under-exposed, and during its long immersion in the acid-alum hypo solution has absorbed some of the liberated sulphur. In other words, while the film was saturated or filled with the fixing solution the acid and alum decomposed a part of the hypo, and the sulphur so liberated remained *in situ*. We generally use an "acid fixing bath," but never on any consideration, one containing "potass. alum." Carbutt's formula with chrome alum is excellent. We really cannot say whether sodium sulphite or acetone sulphite should have a preference in the edinol developer, as we employ both with, so far as we can see, equal satisfaction. We do not think that anything could be better than the developer given by Henry Williams on page 264 of our June number.



"CAN AUGHT BE SWEETER
THAN SO TO GLIDE."

J. S. Crockett.

THE
AMERICAN AMATEUR PHOTOGRAPHER.

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FORMULAE.



IN spite of the fact that we have again and again said that formulae is indicative rather than imperative, and that the latitude in all of them is almost unlimited, we have more letters of inquiry regarding them than regarding anything else connected with photography.

One correspondent, clear-headed enough in all else, writes: "I bought an ounce of edinol but am unable to make up a solution. The formula that comes with it is in the form of an arithmetical problem.

Edinol.	Sulphate of Soda.	Carb. Soda.	Water.
1	10	10	100

What is the meaning of the above? One part of edinol to 100 parts of water would be entirely different from one ounce of edinol to 100 ounces of water.

Another says: "The journals make me tired. I have tried nearly all and they seem to agree on only one thing—to differ in the formulae they recommend, and that to an extent that is simply distracting to novices such as I. Why don't the editors, who are supposed to "know it all," bring them into something like harmony, or at least give some *ex cathedra* information that the novice may recognize as reliable?"

Still another writes: "Judging from the notice that it is getting, edinol just now is the champion developer, but what is a fellow going to do about it? Every one of the many magazines seem to have in each of its numbers several formulae and no two are alike, so that they cannot all be correct. Quite as wide is the diversity of opinion as to its developing factor, rang-



"A MOMENTS REST."

S. Wylie

ing all the way from 6, which you give on page 62 of the February number, to 22. Please give us once for all the best formula and *the* correct factor."

Taking the last first, we may say at once and once for all that there is no *best* formula for edinol or any other of the many reducers. It is true that variation in the relative proportions of the ingredients of the developing solution varies the action and the result of development, and the properly equipped photographer knows just what he wants and how to modify his developer to get it.

The four essentials in any developer are the reducer, of which edinol may be taken as a type, frequently, although somewhat erroneously, called the developer; the preservative, generally sodium sulphite, the object of which is to more or less control the oxidation tendency of the reducer; the alkali, generally sodium or potassium carbonate, which neutralizes the acid hydrobromic, a result of the chemical action; and the water, from the hydrogen of which that acid is formed by its union with the bromine of the silver sub-bromide which is supposed to constitute the latent image.

While each of the reducers—the so-called developer—have certain qualities peculiarly their own, they are alike in the fact that their main action in development is the liberation of hydrogen from the water, although they may not all do it in exactly the same way or with exactly the same results. The following table, the result of an examination of as

many formulae as we at present have access to, will show how varied it may be and yet give good negatives, each being specially recommended by someone who had found it answer his purpose. The first column of figures is the minimum quantity of the material prescribed; the second the maximum, and the third may be taken as giving a normal developing solution suitable for almost all subjects on all makes of plates and films that have got something approaching a correct exposure, an exposure based on the indication of, say, the Wynne's or Watkins' exposure meter. The X represents any one of the reducers from pyrogallol to the latest introduction:

X.	1 grain	35 grains	3 grains
Sodium Sulphite	6 grains	25 grains	15 grains
Sodium Carbonate	5 grains	35 grains	10 grains
Potassium Carbonate	8 grains	20 grains	
Water	1 ounce	1 ounce	1 ounce

The 35 grains is hardly fair as the maximum of the reducer, as it was an exceptional formula by Moreno of New York, pyrogallol being used. Eight grains, with that exception, being the largest quantity employed, and even that for a special purpose. To the third column the formula for a normal developer, potassium bromide to the extent of from a half to two grains may be added if necessary; but, except for over-exposure or where great contrast is wanted, it is not needed.

Regarding the developing factor, there is also room for variation, the figures being suggestive rather than imperative, but the "6" on page 62



Reflex Camera
Time 1-500th Sec

"THE MEADOWBROOK CLUB"

C. S. Gottheil,
Photo.

of our February number was a misprint for 16, although recent experiments lead us to agree with Watkins in thinking 20 more desirable. It may be taken for granted that the factor may be longer or shorter, according to the effect desired, the shorter lessening and the longer increasing contrast. That the latitude is great may be seen from the fact that while Watkins gives for edinol 20, Gaedicke, in a recently published table, gives the time of appearance as 22 seconds, and the length of development 3 minutes, or a factor of a little over 8.

To the three correspondents already indicated, as well as others who may be in the same box, we say don't bother much about formulae. If you cannot create it for yourselves, take that given by the maker of your plates or films and stick to it until you are independent; that is, until the time comes, as come it will, when formula shall mean little and the method of its employment everything.

Nor need there be any trouble with the "factor," the development of one or two plates, with notes of the time of appearance and of complete development to normal density and the dividing of the latter by the former will fix it for all time, while a few experiments will show how to modify it for abnormal conditions.



Kodoid Plate

"LUNA PARK CONEY ISLAND, AT NIGHT."

J. P. C.

PICTURE STORIES.

By D. K. LANDIS.



ANY years ago the writer formed the habit of writing brief but novel descriptions of his outings and illustrated them with crude pencil sketches or photographs, embodying the resulting record in a book which could be placed upon the ordinary book-shelf, and as a result of his experience in this line, would venture to assert that none of the numerous plans for utilizing photographs that he has tried have given so much pleasure and gratification per square inch of effort. Note particularly the term "novel descriptions," for therein lies the key to half the pleasure sensation. Among the records made in the past is the log of a cruise, during which about 100 photographs were taken; but the manner in which that log was kept, its medley of verse, facts, opinion, sensation, etc., would have scandalized a mariner of the regular service. Another cruise was illustrated by blue prints on a white-leaved sketch book, blue line around and four-line stanza rhyme done in blue typewriting for each picture. Another collection was in a home-made book, bound in canvas, and contained brush developed platinum prints with black lettering, but the blue color seems to better represent water views. These were not pictures of rocks and yachts and bluffs, but began with a snapshot of the family waving good-bye from the float, then a view under sail, cooking, digging clams, filling the water jugs, a morning swim, starboard watch, anchorages, a siesta, heaving the lead, homeward bound, etc., telling just how it was done and what it looked like better than words.

Then, again, there are summer outings accompanied by revised Mother Goose rhymes, two weeks in the woods thoroughly written up in diary form while sitting on a big stump between the tent and the river just behind the tree in which an excitable little squirrel lived—but that collection was lent and never returned, so that the writer has included among his list of "Dont's" that of lending collections. Sometimes quotations that seem appropriate accompany the pictures, but the pictures themselves should tell the story, and that means that subjects otherwise deemed unworthy must be often included. What would be more fitting than a view of the tent site, just deserted, to finish a camping series; the square drainage



ditch, lonely looking tent pegs, the improvised table, a deserted camp-fire, all appeal to the imagination by their pathos as if they said in words "don't go"; and yet the view is not picturesque in the ordinary meaning of the term.

The accompanying illustrations are selected from a cruise taken last summer with the idea in mind of carrying novelty a step further. Under the white cross-bones on a red field, a peculiarly villainous combination of piracy and anarchy, we sailed away and then we sailed back again. The pictures will fill up the interim of this description of which the least said is probably the better in these days of yellow journalism. It is recommended to those in search of novel sensations but do not run away and hide when anyone comes in sight. Likewise, don't wear white duck trousers and custom-made shoes as we did; there should be a certain amount of probability about even the fanciful, or the dramatic effect is lost and the effort becomes ludicrous.





This private cruise idea is offered as a type that will bear development, whether in the unexplored recesses of primeval forests, on the canoeist's favorite river or up and down the Atlantic Coast; even a farming masquerade gives an opportunity for mixing the dramatic with the pictorial. The picture maker in costume is upon a stage with nature as a background and his pictures tell the story to delighted audiences. There is something definite in the idea and the attempt at carrying it out furnishes sufficient mild excitement to keep up the interest. When the average picture hunter pockets his folding kodak he trusts to kind destiny to send things his way, but the man with an idea knows what he is after and will not be satisfied until he gets it. Every view of the series is essential, and although ruined films may necessitate a second trip, the original plan must be adhered to.

The first principle one should get firm hold of is that a picture should represent an idea, not merely a fact. The mental conception of the fact stops at the picture. The idea stimulates the imagination, carries the thought along lines not represented, gives the observer the pleasurable



sensation of originating, and thus serves to suggest more than is seen. This is the same thought that is suggested by the quotation, "half concealing, half revealing," for there is always more to an idea picture than is represented. Even a title often changes the entire impression received; it makes a great difference whether a picture is entitled "a horse" or whether it is called "Bill." In the same way "a catboat trip" is less stimulating to the imagination than "a pirate cruise," and certainly less interesting to undertake.

However, we would not advise the army of amateur photographers to suddenly turn into bands of brigands, bad Indians, farmer boys, gypsies, tramps or other radical departures from conventional lines. The plea is for dramatic effect in photographs, whether obtained by costume or from natural sources, and the working of these pictures into a series which shall tell their own story.

Throwing Down Gold.—Professor Fergus J. McInnes, a well-known authority, says that a useful method of obtaining a precipitate of pure gold from any solution containing mixtures of other metals is to make the solution strongly acid by either nitric or hydrochloric acid, then add from ten cc. to one hundred cc., according to quantity, of commercial formaline. The action is considerably hastened by a gentle heat, and pure gold in a crystalline condition is completely precipitated and separated from solutions containing mercury, zinc, lead, manganese, tin, or arsenic. Platinum is also precipitated, but so slowly that the gold is easily separated from it by decantation. Iron is also precipitated in a crystalline form by formaline.



SPECIAL SUBJECT SERIES.—IX.

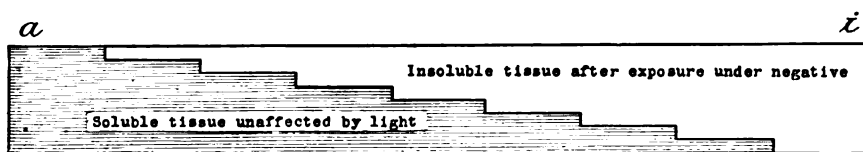
Carbon Printing—Continued.

BY DR. JOHN NICOL.



THE printed tissue with which the last article was concluded may be represented by the cut below. The thicker line is the paper and the space between it and the thinner one the light affected pigmented gelatine coating largely magnified. The gelatine surface is supposed to have been presented to the light and the various steps are intended to show the various depths to which it has been affected or rendered insoluble. From *a* to *i* shows nine degrees of gradation, limited only for facility in drawing, as it might as well have been a hundred,

the possible degrees in carbon tissue being limited only by the number of degrees of gradation in the negative, carbon being the only printing method in which gradation is practically unlimited.



The shaded part of the diagram shows the parts of the tissue unaffected by the light that has passed through the negative; *a* having been under the highest of high light, or perfectly opaque part, and consequently remains soluble right through; while *i*, having been under the deepest of deep shadows or clear glass, has been rendered insoluble throughout.

Now, as development merely means the washing away of all the soluble pigmented gelatine, it will be evident that it cannot be done from the surface of the tissue, that is the side exposed to the light, as from the first step beyond *a* right through to and including *i*, that surface has been ren-

dered sufficiently insoluble to protect the soluble gelatine below it. To Blair of Perth (Scotland) perhaps belongs the credit of first showing how to overcome this difficulty by developing from the under side. By this means the whole of the insoluble pigmented gelatine is easily washed away, leaving *in situ* only that which has been rendered insoluble, graduated according to the quantity and intensity of the light transmitted by the negative from the highest of high lights under *a*, where all the colored gelatine has been washed away, to the deepest dark under *i*, where all is represented as insoluble.

Before proceeding to develop it is necessary to decide whether it is to be by single or double transfer: the former the simpler because fewer operations, but by it the finished print is reversed as to left and right; the latter entailing two transfers, but leaving the object in its right position.

Subjects in which the reversal is of no consequence are generally produced by single transfer, and I shall describe it first. The preparation for development includes two or three trays larger, the larger the better, than the prints; several pieces of glass a little larger—I like to have as many as I have prints; a squeegee and a piece of rubber cloth, as before mentioned; a solution of alum, 1 to 8; a supply of hot and cold water, and as many pieces of “single transfer paper” as there are prints. It is perhaps well also to include a thermometer, although after a very little experience the hand will sufficiently indicate the right temperature.

Begin by slipping the sheet of well dusted transfer paper, face up, into a tray of cold water, then in the same way, but face down, the well dusted printed tissue. It will almost immediately begin to curl, an action which must, as far as possible, be prevented by passing the fingers around the edges and all over; at the same time making sure that no air bells are formed on either side. This is easier done than described, especially as while both tissue and fingers are wet the latter may be freely, though lightly, moved all over both sides of the tissue.

In a short time, depending on the temperature of the water and the hydrometric state of the tissue, it will become limp and lie flat, and that is the moment when it should be withdrawn from the water. To do this bring both tissue and transfer paper together face to face *under the water*, and draw them out together, letting the back of the latter rub against the edge of the tray. Have ready, on the table, one of the glass plates on which to lay the withdrawn tissue and support the tissue uppermost, and then cover it with the rubber cloth, cloth side down. Next apply the squeegee, beginning at the middle and going first to one end, then to the other, and then over and over, squeezing out as much of the water as possible, and making sure that there are no included air bubbles.



"CONSOLATION."

From a Print on Helios Parchment Platinum Paper

H. S. Bellsmith.

Proceed in the same way—the same tray of water will do—with as many prints as are to be developed, and lay them one by one in a pile, laying on the top a weight of a pound or two, the object being to keep them moist or from drying before development, which must not be commenced till from 10 to 15 minutes after squeegeeing, or until the bichromate has penetrated through to the back of the transfer paper.

As the tissue is sensitive only while dry, development may be conducted in ordinary subdued light, and is commenced by slipping the combined tissue and support, the former uppermost, into a tray of warm water from 100 degrees to 105 degrees F. The tray should be gently rocked, and in a few minutes the gelatine round the edges that had been kept soluble by the “safe edge” will begin to ooze out and the paper begin to curl up from the support. At this stage, or a little later, one corner of the curling up paper may be taken and gently drawn up, when, if the proper stage has been reached, the whole may be peeled off, keeping the transfer under water, leaving a colored gelatinous mass loosely lying on the support or transfer paper. As the rocking motion, which may now be more vigorous, continues, the gelatinous mass will gradually diffuse through the water, and if the exposure has been about right, the image will take shape, gradually getting cleaner and clearer, until perfect in every detail. If, however, from over-exposure, a stage should be reached at which progress seems to stop, the print may be removed and hotter water added to bring the temperature up to, say, 130 degrees F., the print returned and the rocking continued till the desired result is obtained.

The developed print is now rinsed in several changes of water, or until, on holding it up to drain, the last drops from the corner contain none of the pigmented gelatine and very little of the yellow of the chromic salt, and transferred for about ten minutes to the alum solution. This is a very essential part of the operation, both because of the very delicate nature of the gelatine image which it hardens, and of the necessity for the removal of every trace of the bichromate, which it effectually removes. After the alum bath the prints should be washed in eight or ten changes of water and hung up to dry.

The objection to carbon printing by “single transfer,” as I have already said, is that the image is reversed from right to left, and therefore for portraits of one’s self it is just as we see it in the glass, but there are many, indeed most subjects, for which in consequence it is unsuitable. It may be corrected by the use of films for negatives thin enough to be printed from either side, or by exposing plates through the glass, but neither methods are always convenient, so that “double transfer” must of necessity be sometimes had recourse to.

In double transfer the printed tissue, instead of being first transferred to "transfer paper" as its permanent support, is attached to a temporary support; either a paper suitably prepared and under the name of "flexible support," supplied by the stock dealers in large sheets and cut sizes, or opal or ordinary glass. Flexible support is probably the most convenient, and may be used over and over again by "waxing" before each operation.

The waxing solution may be as follows:

Beeswax	3 grains
Resin	12 grains
Benzole	1 ounce
Turpentine	1 ounce

The flexible support, as supplied, is ready for use, but before being used a second time it must be rewaxed with the above. The previously used support is pinned by the corners to a board and, with a woollen pad moistened with the solution, rubbed all over by a circular motion like that of a French polisher, gently yet firmly enough to produce a polish similar to the original surface.

The flexible support, either new or rewaxed, is immersed in cold water and laid on a glass plate, face up; and the printed tissue, immersed in the same water till limp, as in single transfer, is squeegeed on to it, the moisture round the edges absorbed by a dry sponge, and after fifteen minutes developed, alumed and washed, as in single transfer, and then transferred to its final support.

The final support is generally that supplied by the dealers, a stout paper coated with a semi-soluble gelatine; but almost any paper or any surface so coated will answer the purpose. Those who want to prepare their own transfer paper, or to coat other surfaces, may take the following, recommended by a successful carbon printer: Two ounces of gelatine is soaked for several hours in 16 ounces of water and then dissolved by gentle heat. Sixty grains of chrome alum, dissolved in two ounces of water, is then gradually added to the warm solution of gelatine, with constant stirring. The solution, while still warm, is applied to the paper either by floating or with a sponge, and the coated paper hung up to dry in a place free from dust.

The final support, whether that supplied by the dealer or made according to the above directions, is cut to a size a trifle larger than the print, and immersed in water of about 100 degrees F. until the coated surface becomes slimy and the paper semi-translucent, probably from five to ten minutes. In the meantime the washed and dried print is again soaked in cold water till soft, laid face up on a glass plate, and the final support

withdrawn from the water and laid on it. To prevent the inclusion of air it is well, while holding the support by the two near corners, to let the two opposite ones first fall on the face of the print, gradually lowering the hands so that the air may be forced out as contact is made. The rubber cloth and squeegee are then applied as before, and the transferred print hung up to dry.

When perfectly dry, *and not before*, the point of a knife may be inserted between the tissue and the flexible support at one of the corners, one of each taken between the thumb and finger of each hand, when a gentle pull will separate them, leaving the picture ready to trim.

Where any retouching, pinhole filling or spotting is to be done on a pigment print, it should be between the development and the second transfer, as that which would, on a single transfer be very evident, will disappear altogether on the second.

While a good pigment print by double transfer from a flexible support, and from a negative full of delicate detail and perfect gradation is, to most lovers of art, one of the most beautiful of all photographic productions, there are those who prefer the "higher finish" given by development on and transference from either the ground side of an opal or the polished surface of a glass plate, and that is as easily produced as is the more ivory-like texture from the flexible support. But that and some other information helpful to those who may take to carbon must wait till the next.



"EAST SIDE PEDLERS."

Edward Heim.

FIXING AND WASHING PRINTS.

By G. L. BROWN.



APRIL and May will long be remembered in Ontario County as the driest for years, and we, as well as most of our neighbors, felt the full force of the old, old saying, that "we never know the value of water till the well goes dry."

Our well was dry and the nearest neighbor from whom a supply could be obtained was at a distance of nearly a thousand yards, and his good nature had its limits. "Surely, surely," he, or rather she, replied to our request, "while it lasts, but that may not be long, but there must be no print washing. I've hidden the Doctor's printing frames and mean to

keep them so till rain comes. He would rather give up his coffee and take to beer than want water for his prints, and he uses as much for a few of them as would put over a big washing."

This set me a thinking. I, too, believed in thoroughly washing my prints, but was I quite sure that so many gallons were necessary as I had been in the habit of using, and to think was to act. I had frequently read that fading, or the more frequent yellowing of prints on silver paper, was caused very much more frequently by insufficient fixing than by insufficient washing, and to make sure on that point gave a batch of two dozen 5x7 fifteen minutes on a fresh one in eight solution of hypo, keeping them in motion all the time.

From the fixing solution the prints were removed one by one and placed in a pile, face down, on a glass plate, each being allowed to drain for about ten seconds, and a wooden roller, a kitchen rolling pin, in fact, passed backward and forward to squeeze out as much of the hypo solution as possible. From this they were lifted one by one and placed in a 9x7 porcelain tray containing a pint (16 ounces) of water, the operation occupying just five minutes, each being again allowed to drain a few seconds into the tray, from which it was withdrawn. From what I shall call No. 1 tray they were removed one by one as before, each being withdrawn from the bottom and allowed to drain, and placed in No. 2 tray, also containing one pint of water, the transfer occupying the same time. From No. 2 they were in the same way retransferred to No. 1, and so on, till they had been three times in each tray, or been washed in six different pints of water.

Women are more patient than men, and so the operation was relegated to my better half, but I was not idle. A few of the last drops drained from the first and last print taken each time from each tray were allowed to fall into a test tube containing a solution of starch iodide of such a strength as to be unmistakably blue when held in front of a sheet of white paper, and, to those at least who have been wont to consider gallons by the dozen necessary to the proper washing of prints, it would have been a revelation to see how soon the washing water lost the discoloring power.

The drippings from the first water discharged the color almost as soon as they fell into the test tube; those from the second did so only after shaking; and with the third it was with some difficulty that an alteration in the color could be detected after ten minutes. With a view to making the test more delicate the color was weakened for the fourth and fifth tests, and I may say at once that after the latter the color remained unchanged at the end of several hours. But, to make assurance doubly sure, I gave a sixth water, and some of the prints so washed have been exposed to atmospheric influence in sun and shade since the 17th of May without a visible trace of alteration.

It may be taken for granted, then, that where water is scarce or when for any cause there is a need to economize it, at least two dozen, and I believe at least twice that number, may be sufficiently washed in six pints, provided it be done in the above or some equally efficient way. No doubt the from thirty to forty minutes constant attention involved is an objection where a wife or other help is not available, but there must always be a *quid pro quo*.

WORDS FROM THE WATCH-TOWER.

BY WATCHMAN.

WE are often inclined to laugh at the vagaries of writers in the lay press when they ettle at writing on photography; but some of us had better keep an eye at home. A writer in a July contemporary, and a teacher in a photographic college at that, is sufficiently in the dark to give the following as the reason for a particular order in making the developer: "Notice, we are to dissolve the oxalic acid before we add the pyro. The oxalic acid will precipitate the organic matter in the water, and will thus preserve the solution better. Should we add the pyro first, we would but feed the germs in the water and cause the solution to color directly." Of the action of the developer he is equally ignorant, as is shown by the following: "The action of the carbonate is to open up the pores or sacs of film and allow the pyro to deposit more freely, thus rounding out the cheek better." Such ignorance is the more remarkable that one of his colleagues has recently published the only really correct theory of the action of the

various ingredients in the ordinary developer which it may be supposed he has read.

* * *

In the same magazine we are told something hardly less amazing, and by an M.D., too. Typhoid bacillus, it is said, is not wholly destroyed by less than twenty minutes in boiling water, but here it is gravely asserted that water so contaminated may be rendered perfectly wholesome by the addition of alum to the extent of two-thirds of a grain per gallon, and filtering. But I shall let the author speak for himself: "To make this as simple and easy as possible, I found that a heaping teaspoonful of powdered alum was equal to about eighty grains. By putting this quantity into a pint bottle of water, would give a solution of about two-thirds of a grain to the teaspoonful. Then a teaspoonful of this solution supplies the required amount for a gallon of water. This is to be stirred, and when filtered put into large, clean bottles on ice for a short time, and it becomes "ice cold" and is tasteless and pure, and all danger of disease germs from water supply is avoided, and the trouble is so little it should be generally known and adopted, at least when there is any reason whatever to suspect impurities in the water supply. The question often arises, How about the danger from the alum? The fact is the alum is *all* removed in the glutinous matter, and not a particle can be found in the filtered water. This plan I have adopted in my own home for the past two years. I use the "Gate City Stone Filter," but am satisfied the other plans mentioned will answer just as well. It will be found that there is about two ounces of residue that will not go through the filter (of a sticky, gelatinous nature) to every gallon of water that one could hardly be induced to taste, and, before the experiment, could hardly have believed could have been in the water. It should be borne in mind that not only typhoid, scarlet and other fever germs, as well as other disease germs and offensive matter, is thus easily removed." Such a statement is little short of criminal, inasmuch as it may lead the less informed to use contaminated water after such a ludicrous attempt to purify it.

* * *

Development without a dark room is everywhere in the air. Mr. Baskett, who some time ago caused considerable amusement by showing how negatives might be reduced by "globe polish," has again drawn on the kitchen for material with which to stain the developer and found just the thing in "soup coloring," although he declares that almost anything else, even to a handful of mud, will do as well. The following is part of a report of the demonstration he gave at a meeting of the West Surrey Photographic Society: "A demonstration on 'Non-actinic Development' was given by Mr. R. H. Baskett before the West Surrey Photographic Society on 17th inst. After a racy paper had been read upon the subject, and a dissertation upon mud as a means of development, the demonstrator proceeded to stain both developer and fixing bath; then covering the dark slide and developing dish with a cloth, the plate was slipped in and the cloth withdrawn. Some dismay was caused by the reckless way in which

the plates were handled, being withdrawn and examined by gaslight and returned to the dish for further development, but the resulting negatives being bright, clear and brilliant, proved there was method in the seeming madness. In closing the demonstration, Mr. Baskett said there was no reason why folks should wait to start photography till they had a dark room, or others to stay till their return whilst upon a holiday, as stout, porter, or any staining substance that would render water turbid, would enable them to develop plates and there and then make sure of their exposures. Even mud would do this, and would it not be possible when photographing those beautiful effects upon mud flats to take up a portion of one's foreground, or by scooping up the middle distance, sit down and develop by its means and at once get the results? In moving a vote of thanks, the President remarked upon the value of the process to those away from home."

* * *

It is surprising how few seem to know anything about the kind of reflector to use, or how to place it in the optical lantern. A writer in the *July Times-Bulletin*, in giving a description of how he enlarges by artificial light without a condenser says of his reflector: "I am quite sure that as the position in which it is does not bring its focus upon the screen, it is more than possible that the apparatus would work as well without it." It certainly would do so, and, indeed, *very* much better without it if it did. The screen is the worst possible place on which to bring the focus of the condenser, and I certainly never saw one that did. The focus of the condenser, if it is to be of any real benefit, must be on the light itself, as has been shown in this magazine several times; as in that way, and that way only, can the rays from behind be returned to the place from whence they came, thereby considerably increasing the brilliance of the image on the screen.

* * *

From the *Building News* (British) I see that the chancel of Lacock Church has been restored as a memorial to H. Fox Talbot, the real father of photography, a very good thing doubtless—for those locally interested, but surely very far short of what photographers should do to the memory of one whose method is the method of to-day only modified. Why does not the Royal Photographic Society, the British Convention, the Professional Photographers' Association, or somebody set the ball rolling and keep it going till a Talbot memorial that shall be a credit to the craft is an accomplished fact?

* * *

We are a long suffering race. Not only do we allow our custom house to prevent our getting the thousand and one useful photographic appliances that our British brethren have at their hand, but it actually enables them to buy articles of our manufacture for considerably less than we have to pay for them. Just think of Seed's plates on which freight from St. Louis to London has been paid selling for quarter plates, 24

cents; 4x5, 38 cents, and half plates, 54 cents, with the usual discount of course!

* * *

Is the ten per cent. solution question never to be settled? THE AMATEUR PHOTOGRAPHER has had another try at it, but doesn't hit the bull's eye. A ten per cent. solution, from a photographer's point of view, is a solution each ten parts by measure of which contains one part by weight if a solid and by measure if a liquid of the article dissolved; and the way to make it with perfect accuracy is as follows: Add a cypher to whatever number of grains if a solid, and minims if a liquid, place the material in a graduated measure, or in a bottle marked to the number of grains or minims with the cypher added, and fill up to the mark with water. Thus, 48 grains with the cypher added make 480. The 48 grains placed in a measure and water added to the 480 minims mark makes an absolute 10 per cent. solution, each 10 minims of which contains one grain of the material, no matter what any one may say to the contrary. Then, whatever number of grains or minims are required it is only necessary to add a cypher to that number and measure out that number of minims.

* * *

Amusing reading is sometimes found where it could hardly be expected. A writer in *Wilson's Magazine* for June gravely tells us that Talbot's "The Pencil of Nature" has "withstood the test of time for fifty-one years," that is, since 1852, although "fixed by prolonged soaking in common salt, as hyposulphite of soda as a fixing agent had not been discovered at that early date," while in the very next sentence he says, which happens to be true, "It was not discovered that hyposulphite of soda proved to be a fixing agent for papers containing the salts of silver till the 14th of March, 1839, by Sir John Herschel." Thus, in one sentence the Pencil of Nature in 1852 was fixed with common salt because the action of hypo had not then been discovered, and in the very next that that action had been known for thirteen years.

* * *

"Travellers Tales" are proverbial for a certain quality that shall be nameless, but here follows one that the members of the P. A. of A. may easily name for themselves. The well known A. L. Henderson, in telling, in *The British Journal of Photography*, how he urged the late J. T. Taylor to use his editorial influence in the establishment of the Photographers' Convention of the United Kingdom, says he was moved thereto by what he saw of the success of the American Convention during a then recent visit; the "success" being an attendance, either in 1884 or the preceding year, numbering *many thousands*.

* * *

Mr. Todd, in *The Photo-Beacon*, tells of a Roll of Honor that he saw during a visit to the studio of Mr. Strauss of St. Louis, that might be a mine of wealth to any one who had the clientele and knew how to work it. He says: "Around the walls of the reception room are to be found, in panels, about eight hundred portraits of gentlemen, all of the same size,

namely, 8 by 10 prints. This idea was started when Mr. Strauss opened up this new studio some half a dozen years ago and went by the title of the "St. Louis 400," and in the collection were to be found the men who had attained eminence in the business and professional circles of the city, and it soon became almost essential for any man of standing in the community to have his portrait included in the set. My readers will at once see the importance of this to Mr. Strauss from a business standpoint, because, while it was not expressed in so many words, he, nevertheless, adhered to a rule that no one's portrait should be added to this collection unless the gentleman invested in one dozen of the prints of this size, which meant an expenditure on his part of at least \$70, so that the presence of eight hundred individuals' portraits on the walls at the present time indicates that Mr. Strauss drew from this source at least \$56,000—quite a nice little sum to come into the coffers of the business, and that, too, from men, the sex that is notorious for avoiding facing the camera."

HOW TO PHOTOGRAPH FLOWERS.

BY F. J. ERSKINE.

FLOWER studies are to some a most fascinating pursuit, whilst others do not seem to care at all. This may be because it requires unlimited patience to get the best results, as well as no small amount of artistic taste. Given these, then flower pictures and studies can be accomplished which are a pleasure alike to the photographer and to the critic who looks on at the work when finished.

It is most difficult to get absolutely good pictures of a plant when it is growing in a garden. To get the texture and softness of the flower the exposure should be very full indeed; for, be the day never so still, if the flower itself remains unmoved, the background leaves are sure to be disturbed by some passing puff of air. This imparts a certain amount of "fuzziness" and a spotty effect to the background, which quite spoils the effect of the picture.

On the other hand, if the picture is taken with an exposure short enough to prevent all movement of either the plant or the background, then the result is chalky and hard. The form of the object is captured sure enough, but the delicate veinings and half-tones which go to make up the roundness that forms the chief beauty of the flower, these are conspicuous by their absence. In the endeavor to secure detail, forcing is resorted to in the development, which makes a bad job worse. A "forced" plate is always harsh. The blacks are inky black, the whites absolutely opaque. The result is a most pitiful caricature of a beautiful object.

Specimen blooms of roses, carnations, Shirley poppies, iris, and columbine lend themselves very well to still-life methods. Roses in a jar or vase are very hackneyed. It is far better to arrange a backing of one or

other of the "Nature Mount" papers on a board, and attach the flowers to this by means of either pins or needle points. In this way great power can be exercised over the grouping. By this it is not meant that the sprays are to be tortured into unnatural positions, but with care a very graceful panel picture can be planned out, which will give the best points of the flowers, with the least chance of the picture being spoilt by a vibrating background.

Those who make a specialty of flower studies will find it an advantage to have the paper pinned over a sheet of cork, which in its turn is nailed securely to a stout board. The pins go into this very easily, and the board behind, by receiving the points, prevents any chance of the weight of a heavy branch tearing the pins out of the soft cork. A great spray of roses is no light weight, and in the case of a heavy branch the pins must be bedded far more deeply than in the case of such light studies as Shirley poppies and wild parsley. A studio stand for the camera is a great help in the case of indoor flower studies. To get the veining perfectly, great care has to be taken with the focusing, and the solid resistance and weight of a rather heavy wood stand is a great comfort. Care must be taken also to arrange the light so that the flowers stand out from the background and do not look as if pasted flat on the paper. Foxgloves are most difficult to manage, though very effective when well arranged.

In many pictures of roses the first thing that a critic generally notices is the sharp, hard "china-like" appearance of the petals. A rose is so associated with softness and velvety texture that the fault is a glaring one. That it is difficult to avoid this hardness all photographers know very well. The only way to mitigate the defect is to give an exposure of really almost absurd length, and then use such developer as will give a very soft negative. It is no easy task to avoid the scylla of harshness without falling into the charybdis of flatness and over-exposure; but with a good deal of pains the happy mean is attainable, though many plates will go into the waste box first.

Isochromatic plates are undoubtedly the best for flower studies, and should preferably be used with a pale yellow light filter. It must be borne in mind, however, that the medium speed isochromatic plates are a shade less fast than ordinary ones, and if at all under-exposed give much harsher negatives than plates which are not sensitized for color. It must, therefore, be decided to give a most generous exposure. Half an hour in a well lighted room, with $f/16$ in the lens, is none too much, and in many cases it will be found not half enough.

With the majority of lenses a small stop has to be used to obtain the delicate half-tone and detail of the flower. The single combination of an R.R. lens gives much softer results than the full combination. Experiments with $f/6$ on sprays of apple blossom did not give very successful pictures. The form of the flower and its most shadowy parts must be clearly defined and in focus; it is this necessity of using a small stop that renders an abnormally long exposure desirable; or else the petals will have the "china" look which is so hideous.

In developing the best way seems to be to flash out the image with a normal developer and check it when all detail is out with either citrate of

soda or potash. Bromide has the power of causing the image to become rather over dense, a fault that the citrates are free from, so their use is peculiarly desirable in flower work. After the check has been applied the plate is developed with a solution strong in pyro, which gives the requisite substance to the image. If a flower study develops up slowly and gives signs of under-exposure it is best to throw it into the waste pail, as a forced flower plate is practically worthless.

Different colored flowers require, as a matter of course, widely different exposures. An orange poppy, for example, will need far longer than its fellow of white or pale sulphur color; deep red roses the same. Bell-shaped flowers will require the lens to be heavily stopped down to get all parts in focus, notably the pistils and stamens which lie in the depths of the bell.

As to backgrounds, different colored ones are needful. For example, iris blooms do best on very pale gray and very dark brown. The thing is to show up the flower to the best advantage without harsh and jarring contrasts.—*The Queen*.

PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

FROM the Journal of this Society for May and June we learn that its new home at 1722 Arch street, with the necessary alterations and fittings, has cost \$24,677.14, a pretty heavy load, but none too much so for the zeal and ability of the photographers of the Quaker City; and the greater comfort and convenience at less cost than on a rent paying basis must conduce to the greater prosperity of the society.

We learn also that the Salon question came up at both of the meetings reported and regret that to all appearance the fates are against it for this year at least.

At the May meeting Prof. A. W. Goodspeed of the University of Pennsylvania gave a very instructive talk on "Comparisons of Lenses." He described his experiences in testing various lenses, and gave the results of his work in this direction. He found little difference in the best grades of Goerz, Collinear, Cooke, Voigtlander and others, all being very rapid, working about F 6.8. He described a new type of Goerz lens, working at F 4.8, which was as good as he cared to use for ordinary work. All the best grades of lenses have much greater covering capacity than advertised. In reply to a question, he stated that if one desired to own but one lens, a Goerz Series 3 was the best to purchase, it being what he considered the best all-round lens. He exhibited a number of interesting plates, showing the results of his experiments. In speaking of testing lenses for astigmatism, he stated a fact probably not generally known, that tests have shown that a slight astigmatism of the human eye is normal.

While on the question of lenses, he thought that shutters being an allied subject, a few words about them would not be out of place. He found great differences and variations in all shutters, no two being alike,

and none of them working alike for two days in succession—all being much slower than marked. By an ingenious contrivance, consisting of a mirror, attached to a swinging tuning fork, of 192 vibrations per second, he caused a bar of light to shoot through the shutter and register its vibrations on the plate, the fork and shutter being arranged to act simultaneously. By this test he found that shutters marked to act in the 150th part of a second really worked in the 53d part of a second; shutters marked 1-100 worked at 1-45; 1-75 at 1-24; 1-25 at 1-17; 1-12 at 1-10, and so on; the lower marking, the more accurate the shutter worked.

The so-called "volute shutter" he did not consider of much value. When set for one second, it really worked in three; two seconds, it worked in five; three seconds, very slowly indeed. What is known as the focal plane shutter was not up to its markings, but was very rapid.

He next exhibited a number of plates, showing very curious examples of reversal of image, apparently caused by under and not over-exposure, as is generally the case. The result was obtained by turning on the white light, while the plates were undergoing development. The plates shown were distinct positives. In reply to questions of Mr. Du Bois and others, whether he had any theory to account for this reversal of image, Mr. Goodspeed stated that he was not experienced in the subject, and could not explain it. Mr. John Carbutt thought that the positive so obtained might be used to make a good negative by contact.

Mr. S. Stockton Hornor described and illustrated by the blackboard a new Cornex Index shown in a May number of the London *Amateur Photographer*. He showed how by this index one can get all objects in focus, and how it indicated what stop to use. Mr. Hornor said that he had invented this contrivance himself two years ago, but had not succeeded in introducing it. Messrs. Beck had since adopted it, and Mr. Hornor thought America should receive credit for the invention. That, however, depends on whether Mr. Hornor published his invention, as not to the inventor, but to him who first gives it to the world belongs the credit.

Professor Goodspeed's opinion of and results with the volute shutter puzzles us. So far as we can gather he seems to be alone in both; and from a general consensus of opinion, as well as from our own exhaustive experiments, we believe it to be the very best "between the lenses" shutter on the market.

THE PHOTOGRAPHIC CONVENTION OF THE UNITED KINGDOM.

THE eighteenth British convention was held this year in the "Fair City" of Perth, beginning on Monday, July 6, and ending on Saturday the 11th.

The proceedings, as usual, began with a *conversazione* attended by about 450 members and friends, and equally, as usual, the Lord Provost welcomed the conventionists in a well appreciated speech. They were further honored by the presence of the Magistrate and Town Council, the members of the School Board and other public bodies.

The president, Sir Robert Pullar, the present head of the well known Perth Cleaning and Dyeing Works, delivered an interesting address, followed by Mr. Henry Coates, who reminded them that to a resident of Perth, the late William Blair, they were indebted for the first inception, or the first publication at least, of the necessity for developing carbon tissue from the back. This was followed by the usual refreshments, during which McGlyn's orchestra discoursed sweet music, and the entertainment of the evening concluded with an illustrated lecture on "Egypt: The Desert of Sinai, and Palestine," by Mr. William Agate.

The object of the convention being pleasure rather than profit, a pleasure-Duke of Atholl, the Cathedral and Hermitage Falls, Cargill, Blargowrie, and outing with opportunity for social intercourse, the conventioners made good use of their time.

The usual business meeting was held on Wednesday, at which Derby was selected for the 1904 meeting; the new council elected with Sir William Abney as president, after which a delightful afternoon was spent at a garden party at Tayside, the residence of Sir Robert and Lady Pullar, followed by the annual dinner in the evening, at which a purse of sovereigns was presented to Mr. Bridge, the Hon. Secretary, to whom more than to all the other members the success of the convention year after year is due.

Notwithstanding the fatigue incident to such outings during the days attempts more or less successful were made at turning the nights or rather evenings to account. Mr. Agate, as already said, lectured on Egypt: the Desert of Sinai and Palestine"; Dr. J. K. Tulloch read a paper on "Facts and Fashion in Photography," and Dr. Gustave Mann one on "Microphotography." Mr. A. L. Henderson described a fine set of slides from Cairo, the Nile, and the Great Assouan Dam, and the members of the Perthshire society showed that they were not far behind in slide making.

Taking it all in all, the Perth convention was a decided success, a record convention in fact so far as the membership is concerned, 333 having paid their subscriptions, a larger number than had appeared at any previous meeting. The local committee, under the direction of Mr. Henry Coates, had done their work well, and the Perth meeting will be long and favorably remembered by all whose good fortune it was to be present.

CONVENTION OF THE P. A. OF A.

From the report of the Twenty-third Annual Convention of the Photographers' Association of America, which reaches us too late for publication this month, we learn that it was a most successful gathering and that the association is in flourishing circumstances, the treasurer's report showing a balance of \$5,175.89. St. Louis was voted the meeting place for 1904. The following officers were elected: President, C. R. Reeves, Anderson, Ind.; first vice-president, Chas. W. Hearn, Boston, Mass.; second vice-president, C. J. Van Devanter, Decatur, Ill.; secretary, Geo. G. Holloway, Terre Haute, Ind.; treasurer, F. R. Barrows, Boston, Mass.

HOW TO FOCUS FOR MAXIMUM DEPTH OF FIELD.

By J. W. SALISBURY.

WHEN using a camera, we are often desirous of focusing so as to obtain a maximum depth of field, and we therefore give below a table showing what point to focus on so as to obtain this maximum.

If we focus on any of the distances given in the table, we shall find that half that distance is the nearest point in focus, and that any distance beyond the nearest point in focus is also in focus.

The stops for which the table is constructed are those usually marked on lenses of British make, and the table can be used for any lens whose stops are marked in the customary manner with the ratio values.

The table is somewhat similar to that constructed by the illustrious Sir D. Salomons, of electric fame; but as neither his table nor that of Dr. J. J. Higgins give stops $f/4$, $f/32$, nor the intermediate stops, $f/5.65$, $f/11.313$, and $f/22.627$, we think the table will prove to be of considerable value, as these stops are in constant use by photographers.

In fitting a lense to a hand camera, the lens should be fixed for the distance given under the heading in the table of the largest stop the lens has, although it is still better if the lens is not at a fixed focus, but is fitted with a rack attachment for focusing. In the latter case we can always put the lens at the fixed focus distance for general use, and bring the racking movement into use whenever it is required for near objects.

Table of distances on which to focus, so that all objects beyond half that distance are in focus. Disc of confusion taken as 1-100th of an inch. Distances given in feet:

Focus of Lens in inches.	Ratio Values Marked on Stops.						
	$F/4$	$F/5.6$	$F/8$	$F/11.3$	$F/16$	$F/22.6$	$F/32$
	Distances on which to Focus for Maximum Depth of Field all beyond half these Distances being in Focus.						
ins.	ft.	ft.	ft.	ft.	ft.	ft.	ft.
3	19	13	9	7	5	4	3
4	33	24	17	12	8	6	5
4.5	42	30	21	15	11	8	6
5	52	37	26	19	13	10	7
5.5	63	45	32	22	16	11	8
6	75	53	38	27	19	13	10
6.5	88	62	44	31	22	16	11
7	102	72	51	36	26	18	13
8	133	94	67	47	33	24	17
9	169	119	94	60	47	30	24
10	208	147	104	74	52	37	27

With lenses such as the Unar lens of Zeiss it is necessary for accurate work to focus with the stop one will use for the exposure, but with symmetrical combinations such as the two-foci Protar lens of Zeiss, it is not necessary.—*The Amateur Photographer*.

NOTES.

ALKALINE EQUIVALENTS.—We are often asked as to the relative proportions of the various alkalis employed in the developers, and have pleasure in answering once for all by the insertion of the following table compiled by that fertile writer G. E. Brown.

Caustic Soda.	Caustic Potash.	Ammonia '880.	Sodium Carbonate Anhydrous.	Sodium Carbonate Crystall.	Potassium Carbonate Anhydrous.	Potassium Carbonate Crystall.
1.0	1.4	.867	1.325	3.575	1.725	2.174
.714	1.0	1.211	.946	2.553	1.232	1.555
.834	1.153	1.0	1.091	2.944	1.421	1.791
.755	1.033	.916	1.0	2.698	1.302	1.641
.280	.392	.340	.371	1.0	.483	.608
.580	.812	.704	.768	2.072	1.0	1.269
.460	.644	.558	.609	1.644	.793	1.0

URANIUM INTENSIFIER.—It is well known that in intensifying bromide or other paper prints, and even negatives, the gelatine is apt to be stained, and that when sufficient acetic acid has been added to prevent staining and keep the whites clear, the gelatine is strongly attacked. To avoid these troubles, and to obtain pure whites use citric or oxalic acids in place of the acetic, as in the following formula:

Water	100 parts
Citric Acid	2.5 parts
Or oxalic acid	1.5 parts
Uranyl nitrate	1.0 parts
Potassium ferricyanide	0.8 parts

When the desired tone is reached the print or negative should be washed in water acidified slightly with citric or oxalic acid.

KODAK LTD. AND THE DEALERS.—Between Kodak Ltd. and the dealers in Great Britain and Ireland there has been war for many moons although we did not consider it within our province to notice it. But circumstances alter cases, and now that they have smoked the pipe of peace we feel like congratulating both on the ground that they will now be better friends than ever.

In all great business enterprises not so much he that invents or discovers as he that makes the thing practically successful gets the credit and generally, too, the dollars. No matter who at first thought of roll films and cameras in which to expose them, their unparalleled popularity was created by the equally unparalleled business methods of Kodak Ltd. and its predecessors, and while it was but natural that they should be copied, it was equally natural that their creators should make bold efforts to keep their creation in their own hands. One of such was the giving of a much larger discount to such dealers as should refuse to stock or supply roll films and cameras other than the Kodak products, leaving them free to deal in anything they liked but largely reducing their profits on Kodak goods. This produced a degree of excitement that to us on this side

seemed largely in excess of its warrant, but it had the desired effect, and the un-get-overable British dislike to a monopoly has been fully justified.

We believe in "Fair trade and no favor," and know enough of the quality of the goods of Kodak Ltd. to say that they need no artificial backing to retain the popularity they have so long enjoyed.

BRITISH PICTORIAL PHOTOGRAPHY AT THE ST. LOUIS FAIR is likely to be well represented. Sir William de W. Abney, the Royal Commissioner for the exhibits from Great Britain, has asked a committee consisting of Reginald Craigie, George Davidson and A. Horsley Hinton to get together a loan collection that shall be truly representative, and they are just the men to succeed.

We have not been quite so enthusiastic as some of our contemporaries over the partial consent of the authorities to admit a selection of the photographs to the Fine Art building. It was not very cordially given, and with a string attached at that, but we shall see. We earnestly hope that nothing will prevent the best of our American pictorialists from exhibiting, even if their work should be relegated to the arts, with a little a, building. The fault then will lie not with the exhibitors, but with the exhibition authorities.

ILLINOIS COLLEGE OF PHOTOGRAPHY.—From the monthly bulletin issued by the college we learn that its Camera Club has adopted a club pin, a golden beauty doing duty as a password and means of introduction, an example that might be followed with advantage by some other clubs; or how would it do to have one pin, badge or button to be worn always and everywhere by the members of all the camera clubs as a sign that its wearer was always ready to give or take information on everything photographic?

The bulletin also tells of the visits of many of the old pupils and of the weddings of others as a proof of the prosperity of former students. Of one whose ability led to his appointment as official photographer to the D., L. & W. R. R., and of many interesting "Talks" and "Demonstrations," both past and in prospect, all of which go to show that the college is doing excellent work.

THE LATE POPE ON PHOTOGRAPHY.—It was well known that Leo XIII. was a poet of no mean order, but not so well that he was interested in photography. The following lines, which we extract from *The British Journal of Photography*, are worth recording:

THE PHOTOGRAPHIC ART.

The sun's bright pencil's flaming tip
Has drawn the image we descry—
Drawn ample brow and smiling lip
And tender light of beaming eye.
O wondrous art, invention rare,
A marvel subtle, strange and new!
Apelles, Nature's rival, ne'er
So beautiful a picture drew.

—Translation by W. E. A. Axon.

BAUSCH & LOMB SEMI-CENTENNIAL.—From the pen of Mr. L. B. Elliot comes a handsome souvenir booklet, commemorating the fiftieth

anniversary of the association of Mr. J. J. Bausch and Mr. Henry Lomb and the founding of the Bausch & Lomb Optical Company. Entrancing as a fairy tale and interesting as a record of merited success is the story of these two sturdy and honest Germans, the pioneers of the optical industry in this country. From the most modest beginning, sharing their store space with a shoemaker, and with a capital of about \$60 in cash, their growth was rapid and steady. Factory after factory was discarded as being too small until the firm now occupies a building having 190,000 feet of floor space, giving employment to 1,200 workmen and producing almost every variety of optical instrument.

Reading between the lines of Mr. Elliott's story for the causes which led up to this remarkable success, we find that it was not attained without herculean effort and not without setbacks. New machinery had to be invented to manufacture new articles. When a high power microscope or other optical or scientific instrument had been invented and perfected, the public had to be educated to its use and the demand created. Now every instrument or device in the optical or scientific line that is needed in medicine, science or photography is manufactured under the one roof, and the continued success of the firm is sufficient guarantee that the quality is unsurpassed. In the lens department alone we learn that the production for one year amounts to 20,250,000 spectacle lenses, over 10,000,000 simple lenses for photographic purposes, over half a million high grade photographic lenses, besides millions of special lenses.

Employees who have received their schooling in the Bausch & Lomb factory from time to time have left and started up factories of their own of no mean size, but the pioneer concern still maintains the lead in this country, if not in the world. Their products are known and used in every civilized country of the globe, and we join with their many friends in wishing them continued success.

COLORS AND DYES.—We have had so many inquiries from our readers as to where they could obtain small quantities of the colors which are frequently recommended for orthochromatizing purposes that we have consulted with the Berlin Aniline Works, whose New York office is at 213 Water street. They have ordered a small stock of the prominent colors which is expected to arrive in this country in about four weeks. The call for these products has been so small that they have not heretofore felt warranted in carrying a stock in America, although in European countries their trade is large, and, in the opinion of authorities, the products of the Berlin Aniline Works are the best of this kind in the world. We would advise those who desire any of these colors to send in their orders early.

REPLYING to numerous inquiries, we have been unable to obtain Kachin in this country and we have ordered a small supply. On its arrival we will be pleased to accommodate those who wish to try it.

FACIAL COPYRIGHT.—Your face is your own, at least in New York State, from now on. Senator Elsberg's bill "to prevent the unauthorized

use of the name or picture of any person for purposes of trade" goes into effect this month; a new law designed to protect people from the indiscriminate and unauthorized use of their names or likenesses for advertising purposes.

RAPID WET COLLODION.—W. T. Wilkinson, in a paper before the London and Provincial Photographic Society, told of a modification of the wet collodion process that should be of great interest to process workers and others who employ that method. By his modification the speed was brought up to about 100 H. and D., the plates were made orthochromatic, or considerably more color sensitive; while development was by the alkaline method,—the decomposition of the silver bromide itself instead of by the so-called acid method in which the image is formed from the silver nitrate on the surface of the plate or in the developer. The following is the formula and how he came to think of it.

The other day I had been making some negatives with collodio-bromide emulsion, and when I had two other negatives to make, my supply of sensitized emulsion ran out, and as I did not care to mix another lot, most of which would probably be wasted, I got to thinking a bit, and suddenly an idea came to me. In the course of the next few days I thought the matter out, and got the things together, and in due course tried the idea, and the first plate was a success. So far as I know, the method is quite new, but upon that point I expect to be very speedily put right. Here is the process:—

Collodion—

A 2 per cent. collodion made with Schering's cellulose . . . 500 c. c.

Zinc bromide 5 grammes.

Dissolve, and let it stand at least a week. Then decant.

Silver bath 25 grammes.

Water 250 c. c.

The plate is coated with the collodion as usual, and sensitized; then, when sensitized—which takes about five minutes—the plate is drained and placed in—

Erythrosine, 1 in 100 25 c. c.

Water (distilled) 100 c. c.

Liquor Ammonia .880 2 c. c.

Here it remains for two or three minutes, or until the surface no longer looks greasy; remove, drain, and expose.

After exposure, wash under tap for a minute or two; then develop. I use ortol and potass. carbonate.

The speed is about 100 H. and D., the development proceeds almost as quickly as a wet plate does under the iron developer, and the density is good, with clear shadows.

Whilst writing the above it has occurred to me that if a collodio-bromide emulsion be made with a little free silver present, by using the dye bath the tedious operation of washing the emulsion could be avoided, but I have no inclination to try if the idea is practical, being quite satisfied with the bath process. Of course other dyes may be used, so that the process may be utilized for three-color negatives.

WHAT I WOULD DO IF I WERE A RECEPTION ROOM CLERK.

Address given before the College Camera Club of the Illinois College of Photography, Effingham, Illinois, by Mrs. Ruby Bissell, Principal of the Retouching Department.

In the oriental countries where the natives worship idols in that form of worship which is called Buddhism, one of the main characteristics of their creed is "Do unto others as you would they should do to you," and nowhere can this most excellent of rules apply better than in the everyday work of the reception room clerk. Let us consider the duties here found from a woman's standpoint. First, as to her personal appearance. We all know that nature does not always distribute her gifts equally as far as beauty of face and form are concerned. Indeed, in some instances she seems very chary of such gifts, but even where this is the case one may still become attractive by cultivating the best qualities they possess to the extent that the unattractive ones sink into insignificance. One who is determined to attain success may here cultivate the wonderful depths of magnetic forces to great advantage. The power to draw out, the power to lead and the force to control are wonderful factors in the success of reception room work. As to her appearance there's nothing like the eternal fitness of things. The hair should be dressed in a simple manner, and the costume conspicuous for its neat and unobtrusiveness; evening coiffure and discarded refinery could nowhere be more out of place. As to her manner, she should be bright and wideawake, most quiet and refined, for remember this is an art studio, and there is such a thing as artistic manners.

MAKE ATTRACTIVE DISPLAYS.

As to the room or suite of rooms in which she spends her time, much may depend upon her native taste. If her employer is a man of artistic taste (and we feel bound to say that he must be if he is a successful photographer), and if he has used money enough, combined with his taste, in furnishing those rooms, then it is the place of the lady at the desk to see that the best care be taken of these furnishings, and that most attractive displays be made. But, on the other

hand, if the rooms are bare and unattractive, she may lead her employer through those same forces before mentioned to see that "seeming success oftentimes brings the reality" right here in the reception room. She might lead him to see that money spent say for a moss green carpet with side walls of green half tones, with ceilings of cream and gold, a few modern comfortable chairs, a suitable table or case for displays, a neat desk, together with pictures hung upon the walls in tastily selected frames, pictures the best the studio could afford or produce; money spent this way is bound to return tenfold, if the lady at the desk does the right thing.

Then, on the other hand, the room may be most plain and cheap, but whatever the furnishings, it must be kept clean and fresh. This is the reception room lady's duty, whether the janitor does it or whether it falls to her lot; to meet success, it must be done.

A NICE ENTRANCE IS ATTRACTIVE.

The entrance, as well as all displays, must come under her supervision also, and here, whatever the conditions, things must be clean. An entrance should be most inviting. As to displays these, too, come under the care of reception room girls. Much artistic taste must be used in arranging these displays, which need not necessarily be so large, but must be fresh and clean, as well as artistic. A display which continually attracts attention is surely all right. Many are the ways for showing pictures, and in some places inside as well as outside displays must be made under glass. As, for instance, in a college town that need is perhaps most often felt. I am sorry to say university students sometimes consider it quite a neat accomplishment to carry away all pictures lying loose in a studio. Calling in numbers, a picture may be passed from hand to hand, and here the quick eye of the lady attendant comes in.

WATCH FOR NEW SAMPLES.

The maker of displays must ever be on the alert for new samples. These she will most frequently find as the prints come from the finishing department to be

spotted and sorted. Selecting the best she may make her wants known to the printer, who furnishes her with the extra print. For a window display, if on the ground floor, three or four large portraits, with a dozen cabinets, constitute a good display. These might be laid upon a covering of silk, which so nearly resembles silk, crushed into soft folds. This goods may be purchased in any of the delicate shades. Yellow is, however, the richest and most durable. Inside, a showcase or large table covered with a piece of plate glass the same size as table laid over the pictures may be used. Displays should be changed frequently. A reception room attendant should always be on time, and one of the first duties of the morning should be to plainly mark all negatives which have just come in, with proofs between, from the printer, with the order found in order book; so that you may read at the bottom of the negative, written in ink, an order something like this: Pierce, one Doz. A. P. No, 34462. Another duty will be spotting of prints. The examining of for any blemishes, sorting and placing in envelopes, ready for delivery. Two books are necessary at the desk, one for appointments and one for taking orders; the latter may be a register which contains space for first, the number of negatives, then name, number ordered, style ordered, when promised, amount paid, amount due. Every order must be registered here. A case for proofs should also be placed at the desk. Now we are ready for the customer. In a little booklet, which is most artistically gotten up, perhaps by the aid of the ambitious reception room girl, entitled "Suggestions to Patrons," would gently hint that from 9 to 11 a. m. is the best time for baby's picture to be taken. So by nine o'clock all duties of the early morning attended to, the reception room clerk begins to listen for "footsteps on the stair," or the click of the elevator. Presently the voice and footsteps of a child, mingled with those of the mother, may be heard approaching. The clerk steps to the door and opens with a polite greeting, seeking at once for the chair which would be most comfortable for the mother, not forgetting one for the youngster. Especially should the mother be made comfortable if she carries a child in her arms. Just such a manner should be worn by the clerk as a hostess would wear for her guest. The expression the

subject will wear when the exposure is made begins to form just here. If the patron is made to feel that you are a friend rather than foe, your pictures will be more widely sought. If the order has previously been taken, when the appointment was made, nothing for the clerk remains to be done except to conduct the lady to the dressing room and carry a copy of style and size wanted to the operator.

HAVE PLEASANT MANNERS.

As the subject returns to the reception room after the exposure has been made, the same pleasant manner should be evident, and here the date for showing proofs may be set. If the day is a very busy one, so much attention may not be paid to each one, but the same gracious manner should always predominate. To the timid, self-conscious customer I would speak in a most kindly manner, endeavoring thereby to aid him in securing that assurance which would aid him to decide what he wanted. To the reserved one I would state all necessary facts in regard to pictures and prices in a quiet, dignified way, without too much unnecessary talk. To the proud, haughty, better than thou creature, I would say in the same way what was said to the reserved one, except that my manner would plainly indicate that I expected no impudence. To the shallow creature, usually termed a "dude," I would present my samples and let him know we had none of the characteristics so evident in his make-up; and to the brisk business man I should endeavor to be brief and to the point, showing him that we too were businesslike also.

In the taking of orders, no fast and hard rule can be laid down, and the same is true of showing proofs. Here it is that tact as well as diplomacy is very necessary. Our success depends much on our experience and our experience more on our knowledge of human nature. We must present our larger work in such an attractive light that we can make the customer feel that that is what he wants. Keep small work, smaller than cabinets, entirely out of sight.

Price pictures singly, rather than by the dozen; for instance, you might frighten a man clear out of the studio to say a group picture such as he wants of his family, costs nine dollars a dozen, but rather say they are seventy-five cents a piece by the dozen.

Many do not know what good retouching does for a picture, and unless proofs are slightly retouched before showing, a great help would be to have in the showcase a finished print, before and after retouching, from the most freckled face to be found. This at once modifies the effect of the harshness in the present costumers case. All proofs should be plainly marked as to changes desired, for the benefit of the retoucher. Days upon which large crowds are expected upon

the streets of a town or city, the reception room clerk should be unusually prompt and careful in preparation for the day. At all times she must make her employer feel that his financial interests are her interests, and if she wishes to please him especially, let her now and then suggest some good point on advertising. And in a word, let her be tactful, making herself a necessity to the success of the business, and she need not complain for want of a position, or because of poor pay.

THE JUMEAUX-DAVIDSON THREE COLOR METHOD.

The above latest modification of the three-color process was recently demonstrated before the members of the London Camera Club by Dr. Jumeaux, one of its inventors, the following notice of which we clip from *The British Journal of Photography*. We understand it to have been the first demonstration of the method:

Dr. Jumeaux was introduced by the chairman, Mr. Martin-Duncan, and he immediately proceeded to state his case in a very clear and straightforward manner. He had provided himself with the necessary materials to demonstrate the process, in the shape of films exposed and unexposed, and as a preliminary operation he put two of the latter into printing frames, and they were sent down to the lower regions of the club premises for exposure to the arc light while the lecture was in progress.

Dr. Jumeaux described the process as a newly invented one, and he claimed for it that it presented features which constituted distinct improvements upon previous methods. He gave generous credit to those who were the pioneers of the work, which was now engaging so much attention at the hands of photographers, and especially he dwelt upon the labors of Mr. F. E. Ives, who, in his "Kromskop," had shown such very beautiful results. The great drawback to such pictures was that they had to be viewed by a special form of instrument, and this undoubtedly detracted from the popularity which otherwise they might have won. He also briefly alluded to the systems of coloration now generally in use—namely, those of Sanger Shepherd and Lumière. The new process, which

he was about to demonstrate, partook perhaps in its features more of the latter process than the former. The pictures produced by it can be viewed either by reflected or transmitted light—i. e., they could be presented both as transparencies for lantern use, and as prints on paper.

Three negatives having been taken under colored screens in the manner usual in trichromatic photography, a strong print was made on bromide paper from that associated with the red screen. This print is made while the paper is wet, so as to avoid difficulties in the way of expansion and contraction in the after manipulations. After being fixed and washed, this paper print, which is to form the foundation of the finished picture, is toned to blue green color by the agency of potassium ferricyanide and citrate of iron. It is then dried.

The next operation employs thin celluloid, upon which a coating of plain gelatine, a convenient material to use being a piece of rollable film which has been immersed in a hypo bath to dissolve out the silver, and thoroughly washed. This is rendered sensitive in a bichromate bath and is exposed to light beneath the negative taken under the green screen. The progress of printing can be watched and the right amount of exposure can be judged without much difficulty. After this the film is immersed in a very dilute solution of sulphuric acid, which discharges the chromic salt, and is afterwards washed in water. This film, which has received its impression from the green governed negative, is now put into a bath of magenta dye until it acquires the right color density, and after

being washed in running water, which removes the color from the parts of the gelatine which have not been affected by light, is hung up to dry. It will be noted that no hot water is necessary, as in some other processes, and the lecturer claimed that the staining was much more accurate than if heat were used, and that extreme accuracy of exposure was not so necessary. If any error was made in coloration the stain could easily be deepened, or, if excessive, it could be made paler by further washing.

In pictures of flowers, fruit, and still life generally, which had so often formed the subjects of illustration in different color processes, extreme accuracy of exposure was not so essential as it was in portraiture. Here the color rendering must be true, and he regarded portraiture as being the crucial test of the efficiency of any color process. If you can produce by such a process a good portrait, other subjects will be easy enough. Individual coloring was as necessary to reproduce in a portrait as was mere form of features. We all know how a face can be disguised by the application of white or black; it can also be disguised in part by false coloration.

Another piece of bichromatized film having been treated in the same way as the first, and exposed to light beneath the remaining negative, and duly washed and dried, the operator is now able to build up his compound picture.

In a bath of warm gelatine and water the blue (paper) print is immersed, together with the yellow stained film, and after both are brought into contact they are drawn out and squeegeed. This blue-yellow picture is dried, and when dry the celluloid backing is stripped off by the insertion of the blade of a knife. Once more the picture, now double, is immersed in the warm gelatine bath with the remaining (red) film, they are pressed into contact, and after once more drying, the celluloid, which formed the provisional support for the red picture, is stripped away. The picture is now complete, and consists of a blue print on

paper which serves as the foundation, on the top of which is cemented, as explained, first, the yellow film, and then the red. It will be, of course, understood that the exposure of the two films to light, under their respective negatives, has been from the back, through the celluloid that is, so as to secure the reversal of the images necessary for the process.

Dr. Jumeaux handed round specimens illustrative of every stage of this new method of color photography, which, he believes, professional photographers will take up largely for portraiture. He fancied that the work of producing the colored positives will assume the form of a special industry, the photographer contenting himself with the production of the tri-chromatic negatives. He explained that the method was patented, but no hindrance would be put in the way of amateur workers who wished to experiment with it. If, however, professionals were to work it for profit, the patentees would expect a royalty.

The discussion which followed the lecture did not bring out any additional information about the process except with regard to unimportant details. Indeed, the demonstration and lecture were so well arranged that there was little more to tell. Of course, there came in the perennial question with regard to permanency, and, of course, the lecturer was unable to stand sponsor for the morals of the dyes employed. He could only hope that the colors were permanent. Some specimens which he had kept for three years showed no sign of change. In answer to other criticisms he said that it was not fair to pass judgment upon the pictures until they had been examined by daylight. The yellow artificial light in which the club rejoices, falsifies both the original tints and their combinations and the complaint that the general effect of some of the specimens was too red was due to this cause. He thanked the club for the patient hearing they had given him. The proceedings closed with the usual vote of thanks, and the members once more dispersed under dripping umbrellas.

PHOTOGRAPHIC PAPER.

The importance of photographic paper to the photographer cannot be overestimated, and yet, as a rule, he knows lit-

tle or nothing about it except so far as it is good or bad, suitable or unsuitable to his purpose. We have always held

that the more he knows about the nature and properties of the tools and material he employs the better, and so have pleasure in reproducing the following technical report by Dr. Scava to *La Revista Tecnica*, as translated and reproduced by *The British and Colonial Printer*:

The manufacture of raw paper for photographic purposes demands sound technical knowledge, skilled workmanship, raw material of the finest quality, and special plant. Consequently only large mills making a high quality product can undertake this particular industry. We can understand, therefore, how it comes about that almost the whole world is supplied by two firms, viz., Blanchet Frères and Kleber of Rives (Isère), France, and Steinbach of Malmédy (Rhenish Prussia); their products being styled "Rives" and "Steinbach" or "Saxe" respectively.

I have analyzed some samples of this paper, with the result that the approximate percentage of used flax was eighty-five, and that of new cotton fifteen. The sizing was resin and starch mixed. Resistance to crushing was slight considering the nature of the pulp, which had a short fiber; the average elongation was thirty-four per cent., and the average length of rupture 2,500 meters, in an atmosphere containing sixty-five degrees of moisture (Regnault hygrometer). The humidity of the paper was about six per cent., and the percentage of ash three to four, and sometimes nine to fourteen, composed essentially of kaolin and baryta. Other German firms are endeavoring to manufacture photographic paper resembling this product both in composition of pulp and quality. These are F. Scholler of Burg Gretesch, in Westphalia, and G. Roeder of Marschendorf, in Bohemia.

The great difficulty is to make paper free from particles of iron and copper. These impurities, due to the steel knives of the rag cutting machine, or bronze of the Hollander, scarcely amount to traces, but may cause dark spots when the paper is employed for photography, owing to the action of the nitrate or other silver salts in sensitizing the paper. It is impossible to remove every particle of metal by treatment with dilute acids, but this might perhaps be done by the aid of the new process of Dr. E. Laudenheimer of Darmstadt, which is based upon the employment of an oxidizing agent. This process consists of treating the pulp or the paper with acid

solutions of peroxides or persulphates to form soluble iron salts. By thorough washing all trace of the reagent is then eliminated.

Rags must always be employed for making photographic paper; wood fiber, chemical cellulose, and mechanical wood pulp may cause the paper to turn yellow. Sizing is of great importance, for if weak it would allow the emulsion to sink deeply into the paper, which would then give weak flat prints.

In analysis, a good Rives paper gave about three parts of soap resin per one hundred of pulp. An addition of starch gives the paper the requisite rigidity. Animal size makes the paper too rigid, as the sizing is superficial, and is decomposed in the photographic solutions; moreover, it gives the print a reddish tint. The paper must always be of a uniform thickness.

Owing to the delicacy needed in treating the raw materials and their expense, one can easily understand how the two chief works, viz., those of Rives and Malmédy, have almost completely monopolized the market. The General Paper Company of Brussels, says Dr. Scava, has purchased the production of these two works, resells a limited amount to German manufacturers at a profit of from 11d. to 2s. 3d. per pound, and supplies England, North America and France at a better price.

It is interesting in this connection to note the import duty into various countries: United States, 1s. 7d. per pound; France, 9d. per pound; Switzerland, 3/4d. per pound; Spain, 1 3/4d. per pound; Italy, 1 3/4d. per pound; Russia, 9 1/2d. per pound. In Germany the duties are less in this case, and in 1901 the imports were fifty tons, worth £20,000, while the exports are given at 338 tons, valued at £155,000.

Coating the paper with baryta for P.O.P., etc., demands many precautions. Pure baryta must be used without any trace of iron, mixed with the finest size in wooden vats, avoiding the use of mixing machinery, which easily produces bubbles in the paste and little holes in the coating. The baryta paste is hardened with pure alum, made fluid with glycerine, and colored. It was anything but an easy matter to find a suitable coloring, and even at the present day this is a manufacturing secret. The material thus prepared is strained and spread over the paper, which is then passed through the rolls of a machine similar

to that employed for ordinary paper, care being always taken to keep the baryta and paper out of contact with the iron and bronze by utilizing rolls covered with india rubber. When dried by a moderate heat, so as to prevent the size hardening too much, the paper is calendered.

Germany supplies large quantities of prepared photographic paper from the Act. Gesell. für Buntpapierfabrikation of Aschaffenburg; G. B. Weber of Offenbach; G. u. Beneke, of Lobau (Saxony); and Steinbach of Malmedy. In the United States there are about forty works manufacturing this paper by the Bradfisch process.

A defect of this prepared paper is that it may turn yellow. Whether this is due to the baryta or to the sensitizing coat one cannot say. However, it has been shown by experiments that some paper is affected in this manner much more by one sensitizing bath than by another. Endeavors were made to remedy this by mixing citrates or tartrates with the baryta which react with the sensitizing silver salts liable to sink into the paper. Now, however, this method is almost abandoned.

In bleaching the cellulose for manufacture of the paper one should avoid as much as possible, by checking the action of the chloride of lime, the formation of secondary products from cellulose, which weaken the fiber and destroy the whiteness of the pulp. It is also requisite to employ an antichlor, usually by hypo-

sulphite, as it is not possible to remove these products completely by simple washing. Then one must get rid of all trace of the hyposulphite itself. To ascertain whether any free hyposulphite remains in the paper after employing it to remove chlorine, a sheet of paper is boiled in distilled water, and silver nitrate added to the filtrate. The absence of any brown coloration shows that there is no hyposulphite. When, however, a small amount of hyposulphite is employed in bleaching, free hydrochloric acid is readily produced in the reaction, which is injurious to cellulose.

The presence of free acid in a pulp is detected with test paper. Iron can easily be detected, even in slight traces, in a weak hydrochloric acid solution of the ash. The materials used for coloring the paper may also be hurtful to the sensitizer, especially ultra-marine, which readily decomposes, producing sulphuretted hydrogen which attacks the silver.

Microscopic examination will reveal the composition of the pulp. For this the latter is boiled for a length of time in a one to two per cent. solution of soda. When reduced to a thin paste, a part is carefully washed and colored with tincture of iodine on the glass object holder of the microscope. A uniform reddish brown color indicates the presence of fiber from pure rag, and the structure of the various elements will make it possible to detect the presence of flax and cotton, and very approximately their percentage in the pulp examined.

TRANSPARENCIES FOR ENLARGED NEGATIVES.

We have repeatedly referred to the advantages of carbon transparencies for the production of enlarged negatives, the greatest of which is the fact that the bichromated gelatine will reproduce more perfectly every degree of gradation that is in the negative than any other sensitive surface. For this purpose the ordinary "transparency tissue," so far as we know, leaves nothing to be desired, but the door of improvement is never shut, and therefore we gladly find room for the following article communicated to *The American Photographer* by W. J. Brooke on the employment of thin celluloid films to be afterwards stained. The Fitch films he recommends may not be

come-at-able here, but doubtless all or some of the roll films on our market will be found to answer as well.

The use of bichromated gelatine as an image producer is undoubtedly one of the best means to employ to make our positives for enlarging, and if some method could be used whereby its advantages could be made use of, and its disadvantages obviated, a great gain would be effected.

While working the Sanger Shepherd process of color photography, in which some of the prints are made by staining gelatine images on celluloid, it occurred to me that this was the method for making transparencies for enlarged nega-

tives. After a few trials I satisfied myself that such was the case, and since then I have made a good many enlarged negatives by this means, with very satisfactory results.

To those who may be unacquainted with the method of making the gelatine images for tricolor work, it may be necessary to say that the films are composed of an emulsion of silver bromide coated on thin clear celluloid, the silver bromide being added to prevent a too deep penetration of light. These are sensitized in a bath of bichromate of potash dried and exposed with the *celluloid* side next to the negative. By this means we obviate the necessity of transferring the image as in the ordinary carbon process, and obtain our print as a gelatine relief containing silver bromide mixed with the gelatine and the whole supported on clear celluloid. The silver bromide can then be dissolved out and the gelatine image stained. This, then, is the outline of the process. The working details are as follows:

Those who employ Mr. Sanger Shepherd's process for making transparencies in natural colors will be possessed of the necessary films for the purpose, and will know how to proceed; but those who do not, may obtain their films from him, or employ some of the ordinary celluloid films as used for negative making.

Care must, however, be taken to select a brand the gelatine coating of which is completely soluble in hot water. Many makers of films employ hardening agents along with the gelatine, and such films would, of course, be useless for our purpose. After trial of a good many brands I have found that Fitch's celluloid films are admirably adapted for our purpose, the gelatine being completely soluble and the celluloid not too thick to cause any appreciable loss of definition in the transparency through the celluloid being between the negative and printing medium.

These films, or those of Messrs. Sanger Shepherd, must be taken and immersed in a five per cent. solution of potassium bichromate (to which has been added sufficient ammonia to change the color of the solution to a pale yellow), care being taken to avoid air bubbles. After a period of three minutes they are taken out, very slowly, so that the films leave the solution practically free from surface moisture. They are then hung

up to dry in a room in which a fire has been burning, but care must be taken that this room is well ventilated and is lighted only by non-actinic light, otherwise the films will be insoluble and useless.

When dry, they are best preserved in a platinotype calcium tube or one of the special boxes used for keeping sensitized carbon paper, as moist oxygen has a very marked effect in causing spontaneous insolubility of the film. If these luxuries are not at hand, it will not much matter, as without them the films, if preserved from light and under pressure in a plate box, will keep good for ten days or a fortnight. In any case, the films are better used about three or four days after sensitizing, as by then they have become slightly more sensitive and capable of giving more detail in the high lights.

We now take our film and with a "handkerchief" clean off all splashes of bichromate from the celluloid side, and place that side in the printing frame next to the negative. Printing is done in the shade, and is best regulated by means of a "fraction tint" actinometer, as printing is very rapid, owing to the absence of opaque coloring matter as in the ordinary carbon process. As a rough guide to the exposure necessary, it will be found that in a bright light in summer, and with a negative of ordinary density, four to five minutes will be sufficient, or perhaps even less. A little experience will soon give one the necessary knowledge, and on looking at the film in the frame the image will be seen of a pale slate on a yellow ground, very much as in the platinotype process; if all details are seen, except the very faint ones of the high lights, it will generally be found that the exposure is sufficient. The films are then taken and pinned face up on a small board and plunged into water at a temperature of 100 to 105 degrees Fahr. The soluble gelatine will soon be seen floating and dissolving away, and the image be seen as a gelatine relief of a yellowish white color. When all the gelatine has dissolved—and this can be hastened by gently laving the water—the film is washed in cold water and immersed in a clean hypo bath. This dissolves out all the bromide of silver, and leaves us with a print composed of gelatine varying in thickness inversely proportionate to the densities of the various parts of the negative. After washing the colorless and transparent image of gelatine to rid it of hypo, there only

remains for us to convert the colorless image into one of monochrome.

We can do this in several ways. Probably the best is to stain it with a solution of writing ink. As, however, the constitution of different inks at the present day is so very variable, and as some do not possess the same dyeing effects as others, I recommend the use of Mawson's Free-hand ink. This ink has intense staining powers, is very fluid and free from deposits, and can be diluted to any degree necessary. For a start, it will be found best to use a solution composed of one part ink to two of water. The film immersed in this gradually absorbs the dye, and the density can be judged from time to time by taking out of the solution and examining by transmitted light. Once the right density has been secured, it is only necessary to rinse in water and hang up to dry, and the print is finished.

The great advantage of this method is the large amount of control it gives one for working up the positive or altering the values; in fact, it gives an immense amount of latitude to the pictorial worker.

We can very slightly stain the print, if we wish a soft enlargement from a hard negative, or conversely, by printing the film a little further and staining in a strong ink solution, we can get a strong positive from a weak negative, and consequently a strong enlargement. Still greater contrast can be obtained by the addition of a little red ink or of a solution of scarlet dye to the ordinary ink solution.

Local work can be done by means of a brush charged with strong ink solution for intensifying parts, or by working over other parts with a brush and water we can reduce the density; in fact, a very great amount of control can be exercised over the final result.

An alternative method of "staining" is to use a solution of permanganate of potash. This at first stains the film pink, but afterwards the color changes to a sepia, owing to the changing of the permanganate into an oxide of manganese. When the proper density is received, a slight rinse under the tap completes the operation, and the film may be hung up to dry. Local work can be done again in this case, as before, by painting over the parts requiring strengthening by a brush dipped in permanganate, and reduction can be accomplished by brushing over the desired part a weak solution of

sodium sulphite acidified with a few drops of sulphuric acid.

A third alternative method, which yields beautiful transparencies, but lacks the power of control, is to take the print after development and, without fixing in hypo, convert the silver bromide image into one of sulphide by means of a bath of weak ammonium or sodium sulphide. This gives a very pleasant brown image, but to obtain the best results it is advisable to print rather deeply in the first instance. This, by the way, is a very pleasing method of preparing transparencies for the lantern, though it is perhaps simpler to bleach a black toned lantern slide with bichromate and hydrochloric acid, and sulphurize in the sulphide solution after—but this is a digression. To sum up the advantages of preparing positives for the making of enlarged negatives by the above process, we find that, in contrast with the ordinary method of single transfer of carbon tissue on to glass:

1. No safe edge required.
2. Printing, after a little experience, can be judged visually, instead of having to rely entirely on an actinometer, though, of course, the use of one tends to greater certainty in the method of working.
3. Almost unlimited amount of control over the variations needed for pictorial effect.
4. No transfer needed, and thus all risk of troublesome frilling and blistering is avoided, and no markings due to pressure of squeegee on the paper.
5. No troublesome coating of substratum on glass to receive the transferred image.
6. Less liability to washing away of fine details in the high lights, and consequently a longer scale of gradation is given to the positive.
7. The necessity of using boiled water is obviated.
8. Manipulations are reduced in number, and consequently the liability to failure is lessened.
9. If necessary, the staining may be washed out entirely by the use of weak acids, and restraining on a different scale adopted.

The contra account is small, and may be stated as:

1. Increased cost of materials. This

to the earnest worker will be of little moment, and the actual increase over carbon tissue is not so great when the smaller liability to failure is taken into account.

2. Very slight loss of definition due to printing through celluloid. This is less with Sanger Shepherd's films than with Fitch's as the latter are slightly thicker; but in any case this disadvantage is but slight, and to some workers would be a positive advantage.

3. Liability of slight scratches, etc., on the celluloid to be reproduced in the enlarged negative. This can be obviated by mounting the film in optical contact between two pieces of glass by means of glycerine.

4. Liability of the film to distortion by the heat arising from the illuminant used in the enlarging apparatus. This evil can be lessened by using a focusing

plate composed of a dry plate exposed for a few seconds to candle light, and developed to a dense black; fixing, washing and drying, and then, when dry, cutting through the film two diagonal lines and right angle cross lines. This is put in the carrier, and the fine white lines on a black ground which are thrown on to the easel are sharply focused, then the positive inserted and the exposure made. This is, however, not an absolute necessity, as, provided the film be bound up between two pieces of thin glass, and only kept in the lantern for a short time, no harm will befall it, certainly not with an oil or acetylene light. Daylight enlarging may, of course, be used, and this entirely removes all source of risk, and perhaps is the better method to employ, as any scratches or defects on the celluloid film are not reproduced so strongly, and are often entirely absent, when with an artificial light and a condenser they would be very much in evidence.

FACT AND FASHION IN PHOTOGRAPHY.

A paper read before the British Convention

BY DR. J. K. TULLOCH.

No one who has frequented our annual exhibitions of paintings, or taken an interest in art generally, for, say, the last ten years, but must have noticed a very marked tendency, especially on the part of the younger artists, to kick over the traces, so to speak, and produce work which the general public, at any rate, unhesitatingly designates queer. You are nobody nowadays unless you show striking originality. Fortunately—or unfortunately—it need not be combined with merit, so that the door is open to everyone to try what he can do in this line.

There is a certain interest in tracing the origin of fashions of this kind, and good to be got from the effort to determine whether there be reason or unreason at the root of them, and as the same craze for originality has invaded modern photography to a marked degree, I have thought the subject a good one for a paper. We pride ourselves greatly on the enormous advances which have been made in all departments of human knowledge in our day. Wonder succeeds wonder so rapidly that it is difficult to startle the world at large, however pre-

posterous the story, while even scientific men think twice before denying possibility to the most outrageously improbable statement. There have been great advances in our day, and no period of the world's history shows such a splendid total of earnest, accurate, and successful investigation. In his search after truth, the modern scientific man has not only brought forward new theories and explanations of things, but has ruthlessly tumbled in the dust the erstwhile sacred but erroneous beliefs of earlier scientific investigators. All this is heartening in the present and hopeful for the future. Poor humanity, however, never seems able to achieve unmixed good, and even the present condition of things has its drawbacks also. While knowledge has extended and specialized—to its great benefit, no doubt—we have learned how pleasant, if not profitable, it is to have our thinking done for us; indeed, this specialization has so advanced the sum of human knowledge, and done so with such rapidity, that all that is left to the average man is to stand still and wonder, not attempting to follow, far less to criti-

cise or to doubt. This condition of things begets credulity, for if science has so far outstripped the average of common knowledge, how is the false to be known from the true by the mass of men? This is undoubtedly the complexion of the modern mind, that we have now done with the old order of things, and that nothing worth knowing is to be learned from old times or ideas. The new broom sweeps clean with a vengeance, but is there no danger of sweeping away more than the dirt, and might it not be worth while to make a casual visit to the dust heap now and again?

We photographers have our own little dust heap. We are specialists, it is true, and presumably know more of photography than the man in the street knows of science. The new broom has, however, been doing its work, and, in the opinion of some, sweeping or attempting to sweep more than the dirt into the dust heap, and it is my intention to make an effort to rescue something which seems to me to be in some danger of being swept away and lost—at least, for a time.

Art and science are wide as the poles asunder, and advance in art is not made by the methods of science. Only yesterday, so to speak, air was liquefied, the X-rays discovered, and radium produced and handled. These great things have been done by the steady addition of scientific fact to fact, and legitimate deductions from them; but the masterpieces of art were not produced by a process analogous to this, and, in the opinion of those well able to judge, do not even belong to our age, but to an earlier and less scientific one. This in itself would seem to suggest that the methods of advance in science and in art are quite different in kind, and therefore, however little respect the modern scientific man may have for the theories of a past age, this is a wholly illogical attitude for the modern artist to assume, be he painter or photographer.

It seems to me that many modern artists have been beguiled by this wholesale overturning in science, and imagine that the same thing should happen in art. Very largely you will find the same tendency to discredit the traditions of the past, and vigorous attempts to produce new and original rules of procedure. It has been said that the end and aim of art is not to astonish, but to move; the modern idea seems to be not to move,

but to astonish, and I think I trace this erroneous conception, as I have already said, to the wholesale upsetting of old ideas which the modern scientist has brought about, and to the appetite for the startling which he has unwittingly fostered. Art is one thing and science another, and, however much the art of one age may differ from the art of another, it does not progress as science does by many helps, by many minds, but by the evolution of the individual—heredity, perhaps, playing a part.

The modern scientific man need know nothing of the views of the early investigators, provided he knows the science of his own times, but the art student finds his best inspirations in the past. The modern *high art* (for lack of a better designation) photographer is smitten with the *overturning* idea, and would move ahead, not slowly and laboriously like the artists of old, but by leaps and bounds like his scientific brother of the present day, startling the world and making a name for himself by a single happy hit. It is a deal easier to astonish than to move, and this he will do, come what may. It may be frankly admitted that he does astonish, but is this the ideal after which we are to struggle, and is photography only capable of winning a clap-trap popularity such as this?

With a perfection and truth of expression exceeding all other graphic arts, how has it come about that so many are prepared to relinquish these priceless qualifications? Let us question no man's motives; let us assume that those who produce the modern very high art style of picture have no such small aim as winning a little notoriety, but are honestly attempting to create a refined edition of nature. Then I ask, Who will be bold enough to say that they have succeeded? Of all attempts to gild refined gold, surely this is bound to be the most futile. There is however, perhaps, another idea underlying the cult. From the first glimmerings of art there have been two factors in the success of its productions, the conception and the execution. These elements are so intimately co-related that it is impossible to say how far charm depends upon the one or the other. The man in the street (useful expression) has little notion of anything but the conception, and laughs in his sleeve at the masterpieces of the impressionist, while he stands deeply moved by a homely story told on canvas

and painted very imperfectly. Artists themselves, on the other hand, scarcely trouble about the incident in each other's work, but criticise the drawing, composition, or the color. Failure to appreciate the sense of each other's point of view leads Tolstoy to declare artists void of art, and Ruskin to hold that the public knows nothing of pictures. Conception, you would say, *ought* to be the main thing in all good art, and execution only the means to the end. Strangely enough, however, in our day, execution, clever technique, is often an end in itself, and we are told that pictures need not mean anything, but must set up sensations.

In so far as these sensations are not intellectual but sensuous, they do not appeal to intelligent people at large, but to those only who have a like monomania. Now those studies in tone, arrangements in light and shade, etc., which we occasionally see in our photographic exhibitions, are made, I think, upon this principle, although the limitations of the art keep them within slightly narrower bounds. It is the price we pay for specialism, for no man can resist his faculties to a single groove without losing very soon a proper idea of the proportion of things in relation to it. Like spice in a man's food, he requires more and more of it to tickle his palate as time goes on. If the modern high art photographer is aiming at a resemblance of the free handling of the painter he is doing a foolish thing, for, master of an art superior to conventions, he is prepared to imitate conventional treatment of a subject to gain the appearance of a dashed-off sketch, which everybody knows it is not. Artists do not take to conventional treatment of a subject out of choice; it is forced upon them by circumstances.

Of course there are those who carry the conventional treatment to an absurd degree, this being an age of fads. A tree is no longer an oak, an elm, or a willow, but a general tree having its power and position in the composition, but taking it all its time even to suggest a tree. What harm would accrue to anyone if it were recognized as an oak, an elm, or a willow? We recognize them in nature! Yes; but a genius hates work; and this would mean work, so he suggests only. We are under no such necessity. The camera is a perfect reproducing instrument and renders nature with a fidelity

the envy of the painter, whatever he may say to the contrary. No doubt he would like to retain the power to suppress, as commonplace objects will occasionally obtrude themselves where they are not wanted; but this is a small price to pay for so many other perfections, and, after all, a subject is spoiled not by the camera, but by the actual circumstances of the case, and if the painter has any regard for truth it is equally spoiled to him.

All my time, and that extends to over thirty years of active photography, there has been a tacit understanding that there was something lacking in photography from an art point of view. The very existence of the various faking tricks—to use the common expression—proves the fact. I have seen enough, however, within recent years, to altogether reverse my own opinions in regard to this matter, and I hold the very strongest belief that the power to touch the emotions is as much with the camera as with the brush; that the principles upon which emotional effect depends are the same in both, and equally open to both, and that, if truth counts for anything, either in the art of to-day or of the future, we may look forward with hope and confidence.

A good many years ago I wrote and read a paper entitled "The Shortcomings of Photography." Our methods were less perfect then than they are now, and, most important of all, neither color sensitive plates nor color screens had arrived. Reading over that paper, I am bound to say that most of my objections do not now hold, and that some of them even then I now consider to have been accidental and not inherent.

Considering photographs from an art point of view, it must not be forgotten that painters may have set up a false standard. Their tales are all fairy tales, for they depart from truth in every particular, if thereby the æsthetic qualities of the work be improved. A painter is constantly striving to lick creation. It will not be generally admitted, however, that he does lick creation; while we, having the same model, can produce as effective pictures, and with more truth in them, if we have the artistic ability. Our photographs are tested for effect by the painter and found wanting. How indignant he would be if we were to retaliate by applying the test of a photograph to his pictures for truth.

I have heard this absurd question put, Where do you find photographs to place beside the works of Raphael, Titian, or Michael Angelo? As a matter of fact, painters themselves have no pictures to place beside them; besides, in literal truth to nature, almost any photograph surpasses them, while for sublimity of conception that also will be matched when our great men are born. It must not be forgotten that art had existed many generations before the great masters arrived.

I not infrequently see, in illustrated periodicals, reproductions which I have to examine very closely indeed before I am able to determine whether they are from paintings or from life, and now and then one sees a chance snap-shot so rich in every desirable quality which a picture should have, that it is not too much to say that the painter's craft never produced anything better. These are exceptions, and the general low average of merit must be admitted, not, however, the fault of the method, but of the men.

Not long ago I had in my hand what purported to be the first photograph taken in my native city, Dundee. It was an interesting but poor production, of course; but what you must know is that it was shown to me by the gentleman who produced it, and he not a very old man. As I, in my mind's eye, placed it side by side with the best work of our own day, the conclusion was irresistible that, if so much had been achieved within the short span of a single life, to what altitudes might not this new art attain? We have as yet only been playing ourselves with the tools, and there has been very little really serious work done from an art point of view. The time has not, however, been lost; finality has almost been reached in our methods, and our good things, when they come, shall not fade before our very eyes. A question which has confronted me for a long time and which I am still in doubt over is this, Is our work forever doomed to mediocrity on account of the absence of the ideal element in it? I myself am sometimes of one opinion and sometimes of another, and it would be valuable to hear the opinions of those better able than I am to decide. Is a truthful inspired rendering of nature in her perfection sufficient, or is it not? Are man's conceptions of beauty higher than he finds in nature, and is he justified, in what purports to be a reproduction of nature,

in sacrificing truth to sensuous delight, even if he has the ability?

Visiting our National Gallery in Edinburgh not long ago, I was quite struck with the sanity of almost every one of our public possessions there. It was quite evident that in high places there was little sympathy with the freaks which are common enough in exhibitions held by artists themselves. As I wandered from picture to picture I asked myself, Is there any inherent impossibility in work such as this being within the grasp of photography? And I concluded that, in the vast majority of cases, while the difficulties would have been great, the photographic method would have been adequate to the end.

Again, you will find, I think, that work which is highly idealistic, although it may excite much enthusiasm in a few, is not generally preferred by even the *educated* public, while dealers will not handle it at any money. Whatever the art of the future may be, *now*, at any rate, subjects treated in a realistic way are prime favorites.

I do not forget the great Turner and his work, but I do say that that great man owes not a little to the genius of Ruskin, and it is not quite so heretical now to have your doubts about Turner as it once was. All these considerations incline me to the belief that the *realism* of photography and mediocrity have no necessary connection, and that the absence of idealism does not necessarily shut us out from the highest flights of art, though it limits our subjects. Photography has had but a very short life, and heredity has had no time to play its part in the evolution of the photographic artist: and, for all that, we make anything but a poor appearance in the art world of to-day.

There is one point in connection with the realism of photography which I would like to bring somewhat prominently forward, and it is this—it seems impossible to make use of the sober truths of our art for the depicting of imaginary scenes. I do not recollect having seen a single made-up composition successfully rendered by photography. Either the absurdity of presupposing a camera set up ready on the spot, impossible conditions of lighting, or some other incongruity, made itself painfully felt. It is different with the painter; no part of his work is anything but imaginary, and the artist may be giving us, from mem-

ory, a reproduction of part of his own life or a scene conjured up in his imagination. We are ready to accept either, for there is no sham involved. But we cannot do this in photography. Our men and women are real, and unless honestly employed, as they purport to be, they are shamming, and it is generally painfully evident. We "hold as 'twere the mirror up to nature," and should hold no traffic with fustian romance, not even in the titles of our pictures. Let our productions be true from first to last, and this will give them a value in all time.

As practical men, what is the outcome of my remarks? If I am right, this—that there is a great future for photography. How is it best to be assured? By honest, laborious work, as in other things. Think how hard and prolonged the course through which the painter struggles before he produces the picture that arrests the attention of the world. Can we expect great things from the small amount of consideration that is bestowed upon the most of our work?

We prospect a spot one day and expose our plate the next, sundown a few glaring high lights, or adopt some other trifling artifice, and imagine that now we should have a real picture. Think how long the painter keeps *his* picture in the making. Our pictures should have as much consideration, although, when the time comes, they are made in a flash. It is to be deplored that so many content themselves with small sizes. It is not in human nature to bestow the same study and care upon them as upon larger, and, if for no other reason, it is a pity that large direct work is to some extent given over.

Allow me to bring this too long paper to a close by recommending a careful differentiation between the meritorious and the meretricious in our productions, a due regard for the limitation of our art, a hard course of study, patience to wait for, or search out, the truly beautiful in nature, will render us superior to all the dodges that ever have been, or will be, invented.

OUR PORTFOLIO.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination should be sent to Dr. John Nicol, Tioga Centre, N. Y.

1644. T. C. FRASER.—"Through the Woods" is a very poor print of an apparently excellent subject. Glossy P.O.P. has been over-toned to an extent that has left only the well known slaty blue image of the most "mealy" description, and with the more delicate half-tones so "eaten" away as to make the quality of the negative merely guess-work. The term "mealy" is an adjective of wet collodion times and may not be generally understood now; but it indicates an appearance as if the print had been rubbed over with flour or oatmeal and enough left to make it not only gray, but to almost hide the more delicate details. So far as it is possible to judge, the subject is fine and the arrangement, that is the point of view, and the light, just right; although we could speak with more confidence if we saw a better print.

1645. H. W. D.—"Waiting." The end of a lake, fine leafy surroundings, and a boat containing two ladies and a dog, would, but for one serious fault, have been an attractive picture. But lake and sky are simply unchanged white paper,



a result of over-development rendered necessary by under-exposure; so much under that even the prolonged development has left most of the foliage simply black. The same exposure with f-8 instead of f-15—about twice as much would have given a very different result. The selection and arrangement are admirable even to the expectant attitude of the dog evidently looking for its master. It is just such otherwise good things that make us almost angry with so many who apparently *will* not learn to give sufficient exposure.

1646. C. H. BROOKE.—Neither of the four photographs of yachts in New London harbor are amenable to criticism from a pictorial point of view, nor are they of much interest except to the owners of the yachts included. A view of any one of them in full sail out in the open would be vastly more worth photographing. We select for notice No. 3, mainly because of its greater simplicity—two yachts prominent instead of many more in the others. It is a good photograph toned to an unpleasant bluish color, considerably over-toned, in fact, of a subject hardly worth photographing. With the plastigmat there was no need to reduce the aperture to f-16. We should have used f-8, No. 4, and set the shutter to four times the speed so as to get the moving boat sharp, its blurred effect being a serious fault in this.

1647. H. W. D.—“The Pool by the Dam” is the same subject and practically from the same view point as that by W. H. Blacar, 1602, noticed and reproduced in our May number, and what we said of it applies equally to this. It puzzles us to account for your not seeing as well as we the false values from a too short exposure, or why you print such a sub-

ject in cold black when warm colors are at your command. From no possible lighting could the horizontal sheet of falling water appear so black, or the smaller fall and the pool itself be so white, while the sky, although slightly tinted, is altogether out of keeping with the darkness of the foliage. With sufficient exposure you would have got all necessary detail by development long before either sky or water was so unnaturally white.

1648. J. S. CROCKETT.—“Can Aught Be Sweeter So to Glide,” a lady and child in a canoe on a reach of troubled water, evidently a river, with trees and foliage on the banks, some of the former of large size with roots under the water, is a very effective composition, and of excellent technique. There is in it all that goes to the making of a picture and the composition and placing are satisfactory, although there is still room for improvement.

Lack of any hint of atmosphere is one serious fault, the foreground objects and objects in extreme distance being equally well defined. Then the canoe is in the middle of the picture, rarely the best place for the objective point which it is here, although it is easier to find the fault than, in this case, to suggest the remedy, and the sky is too high in tone. A little toning down would have been a decided improvement. We should have used a larger stop in the hope of getting a suggestion of atmosphere, focused on the canoe, or a little nearer the foreground; toned down the sky and not carried toning so far. A warm, purplish brown would have suited the subject better and been more generally acceptable. As it is, however, we like it and if we can get another copy in time, shall gladly reproduce it; but Uncle Sam's messengers put that out of the question with this. Prints for the Portfolio should be on mounts only a shade larger than themselves, unless our opinion is wanted on the mounting as well as on the purely pictorial or technical quality. (See Frontispiece.)

1649. CHAS. R. MORRIS.—“On the Canal,” probably in nature one of the most beautiful of subjects, but, as photographed, with reflections in as perfect definition as the objects reflected, far from satisfactory. A stone thrown into the water just before snapping would have given shadows instead of reflections and been a decided improvement.



Then, the foreground, even although improved as suggested, is too large for its interest and at least five-eighths should be trimmed from it. This would also bring the sky line down to a strong place instead of the weakest—the middle, where it should hardly ever be. The negative is considerably under-developed and should be intensified. Longer development would have given a much needed contrast, especially in the lights or what should be lights on the barge and the stones on the canal bank.

We understand that notwithstanding the notice that heads this column a number of prints have been sent to Tioga Centre; but as only first class matter is now forwarded free, they cannot be noticed till after our return.

1650. E. H. ROYCE.—“Portrait of Boy” is as different from that noticed in our last (1640) as night is from day. It is a pretty little picture with hardly a fault. An intelligent looking boy amidst a profusion of greenery, not standing to be photographed, but intently listening to or for something and so giving the desired opportunity for speculation or imagination so desirable in pictorial work. The placing is admirable, with just sufficient space above to give a true idea of the boy's size, and with more space in front than behind, suggesting room to walk out of the picture. The exposure, for once, has been sufficient to give all necessary detail in the shadows without needing to over-develop the white shirt waist, in which, indeed, the light and shade is unusually good. If there is a fault it is in the position of the pole, something like a hoe handle, which is at an angle as if he required a lean or support. It suggests a weakness or need for support, whereas had it been vertical, or nearly so, it would have suggested strength or aspiration, the natural characteristic of a boy. We should have so placed it, and made the hand grasp it down to a level with the bottom of the shirt waist rather than up to the

shoulder. As it is, however, it is a very effective portrait.

1651. W. D. H.—“The Winding Path” appeals to us as few of the Portfolio pictures do, and just in proportion to its effect is the difficulty of saying why it does so. It does not need the writing on the back to tell us that it represents the afternoon of a “gray day” during vegetation's hibernating time, nor that boreas is its pretty constant visitor; as



so far as these are concerned it is “a speaking likeness,” in which we can almost *feel* the blowing of the wind. Nor is that rarest of qualities, a suggestion of atmosphere, wanting, as in the dimming of the distance it too can almost be felt. The only fault is the shade is too high in tone of the sky, which might with advantage have been toned down a little, especially toward the top. Altogether, the technique speaks well for the Orthochromatic Kodoid plate.

A UNIQUE PHOTOGRAPHIC CONTEST BY THE AKRON (OHIO) CAMERA CLUB.

The Akron (Ohio) Camera Club have planned a photographic competition open to all amateurs in this vicinity, present members of the club excepted, which it is hoped will be the means of inspiring the camera workers of Akron

to the making of better pictures. A large list of prizes has been provided, which makes it worth while to enter the competition. The classified list of subjects for which prizes are offered is as follows:

One grand prize for the best picture submitted in the contest. Three prizes in each of the following classes: Landscape, portrait, group, animals, flowers and fruits, interiors, flashlights, street scenes, snapshot, ladies' class (any subject), juvenile class (any subject).

The contest closes October 1, and the

pictures will be judged immediately thereafter. The winners of the various prizes will be announced through the papers and all the pictures entered in the contest will be exhibited to the public on the walls of the Camera Club rooms, corner Howard and Market sts., during the week of Oct. 19 to 26.

AMERICAN LANTERN SLIDE INTERCHANGE.

The work of the Interchange continues to increase, the last season having had the largest membership of any previous year and the quality of the slides as a whole were better. More attention has been paid to the proper matting of slides to bring out their picture making qualities, and the avoidance of the blank or detailless high lights.

The general manager has just issued a call for a new collection of slides for the coming season 1903-4, which are required to be submitted on November 15th next. The present membership consists of the following clubs and societies: The Camera Club of New York, Portland (Me.) Camera Club, Brockton (Mass.) Camera Club, Hartford (Conn.) Photographic Section of the Scientific Society, New Britain (Conn.) Camera Club, Newark (N. J.) Camera Club, Orange Camera Club, Montclair (N. J.) Camera Club, Trenton Photographic Society, Troy (N. Y.) Y. M. C. A. Camera Club, Syracuse Camera Club, Rochester Camera Club, Buffalo Camera Club, Pittsburg Photo Section of Academy of Science

and Art, Reading Lantern Club, Bethlehem Photographic Society, Photographic Society of Philadelphia, Frankford (Pa.) Camera Club, Columbia Photographic Society, Philadelphia, Pa.; Capital Camera Club, Washington, D. C.; Detroit Camera Club, Akron (Ohio) Camera Club, Chicago Society of Amateur Photographers, Minneapolis Camera Club, Denver Camera Club, Los Angeles Camera Club, California Camera Club, Oregon Camera Club, Washington (Tacoma) Camera Club, Toronto (Can.) Camera Club, Montreal Camera Club, Hamilton (Can.) Camera Club.

Other clubs or societies desiring to enter the Interchange should communicate with the general manager, F. C. Beach, 361 Broadway, New York. The requirements are that a set of fifty slides shall be sent prepaid and an entrance fee of ten dollars be remitted.

Foreign interchanges of slides are made with the Photographic Society of the North of France at Donai, France, and with the Amsterdam Society of Amateur Photographers of Amsterdam, Holland.

OUR TABLE.

THE Reflex Camera Co. send their 1903 catalogue of cameras and shutters containing thirteen reasons why the reflex camera and focal plane shutter should be the mainstay of everyone who aims at the quickest of quick work, and showing by about a dozen illustrations that the work is good as well as quick.

* * *

FROM the Farbenfabriken of Elberfeld Co., 40 Stone street, New York, comes a striking poster of the Edinol girl. Mounted thereon is an attractive bromide print to show the quality of the work accomplished with the edinol developer. The poster is attractive and every dealer should send for a copy.

COXIN, which has attained remarkable popularity abroad in a short time, is now obtainable in this country, as will be seen from the advertisement of the American Coxin Co. Its use is to impart a non-actinic stain to the plate so that development in the dark room is unnecessary. What with the Kodak Developing Machine for films and Coxin for plates, the day of the damp, dismal, dark room seems doomed. Not having tried Coxin ourselves we will only say that the foreign press have given it warm support and we expect to refer at length to its practical possibilities in our next.

ANSWERS TO CORRESPONDENTS.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y.

Too Much Protection.

(MRS.) T. C. WALKER.—We are sorry that we cannot tell you more about the "Rembrandt" paper than appeared in our July number, and hardly think it likely to be found on this side. The tariff question places us at disadvantages unknown to our friends across the water. "The hundred and one" photographic oddments introduced here soon find their way there, but the trouble and cost incident to our custom house prevents a return of the compliments. How long?

Timed Developing.

SAM. THAYRE.—We do not reply privately nor recommend the goods of any particular maker. For your purpose, the film and developing machine decidedly. The variation in temperature is not the serious drawback you suppose, as after a little practice you will know perfectly how to make time allowances. The friend to whom we alluded in our last had got it down fine; one minute or less for each rise or fall of so many degrees. We propose experimenting in that direction and publishing the results shortly.

VESPER.—See article on Formulæ.

R. H. WHITLOCK.—Answers to all your questions would occupy at least half of this number, and, as you can find them fully explained in any of the handbooks, we can put the pages to better use. See our "Right Road to Photography," published by Gennert.

Orthochromatic Screen.

E. MAYER.—Colors or dyes under the same name, but by different makers, often differ considerably. The remedy in your case will be found in coating one plate with the mixture of aurantia and methyl violet, and the other with the naphol yellow, and after they are thoroughly dry binding them together. Or all three may be kept separate and one plate given three coatings, each being perfectly dry before the other is applied. There is no objection to a coat of collodion between each of the coats of colored gelatine.

(MRS.) F. L. SAUNDERS.—See article on fixing and washing on another page. The solution should be discarded after

each batch of prints has been fixed; hypo is so cheap that it is not worth saving. We gladly pay for suitable contributions, but they must be practical.

DR. R. L. WILLIS.—Your caramel remains "tacky" because you have not hit on the right way to make it. Your method is good enough when a coloring matter is required, but for backing proceed as follows: Place, say, one pound of well powdered loaf sugar in an enameled saucepan large enough to hold at least three times the quantity, and over a Bunsen burner or kerosene stove raise the temperature to 410 degrees F., with constant stirring. A thermometer is essential, as if over that temperature the sugar will be spoiled and if under it the result will be faulty. Keep up the stirring till the sugar first melts, and then thickens a little and then gets slightly thinner. At that moment remove it from the stove and pour the semi-fluid caramel on a stone or other slab to cool. It should then be broken up and placed in a well corked, wide mouthed bottle, in which it will keep indefinitely.

An excellent backing may be made as follows: Caramel, one ounce; burnt sienna, two ounces; alcohol, two ounces, and water, two ounces. Shake till the caramel is dissolved and add sufficient dextrine to make it to the consistence of thick paint.

VENTI VIDI VICI.—We return the prints as requested, declining to notice them otherwise than in the usual way. It is evident that you want only praise and that you may get in any quantity from all too appreciative friends.

J. A. ANDERSON.—Great minds cannot avoid thinking alike sometimes. No one will accuse you of plagiarism, especially as, as you justly say, "there is not much room for diversity."

We are never troubled with pinholes, either in films or plates, but always dust well, and generally with the "ball of the thumb," and think your suggestion of the light trap in the plate holder harboring dust may be the true cause. Our holders are not trapped, as the slides do not come altogether out. Hold the trap open by a wire and blow hard; a bicycle pump would do the business.



PORTRAIT
GEN. CHAFFEE.

Made by the aid of the Cooper-Hewitt Light.

Copyrighted 1903
By Pirie MacDonald, N. Y.
Photographer of Men.

THE
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LANTERN SLIDES.



WE have probably written more frequently on this subject during the last decade than on any other connected with photography, and judging from such slides as we have been permitted to see during the past winter, and we have seen very many, both professional and amateur, the need for writing is as great as ever.

A lantern slide should be, and with sufficient knowledge and ordinary care, would be one of the most beautiful of all photographic productions; and yet probably seventy-five per cent. of all that are made in this country, and certainly ninety per cent. of all that we have seen, inclusive of commercial slides, are such as, by a first-class slide maker, should be thrown out as wasters. And mainly for one and the same fault, lack of gradation in what may be called the middle steps; little or nothing between the deepest of deep shadows and the highest of high lights—between opacity sufficient to prevent the transmission of a single ray of light and bare glass; slides that on the screen represent a sunny summer scene as if clothed in winter's snow.

Nor is it difficult to diagnose the cause of the disease, and with the diagnosis will, or at least should, come the remedy. Fear of fog and the old teaching to the effect that "a slide should be so clear and clean that one could read a newspaper under it" has led to much too short exposures, followed by very much over-development in the vain hope of getting detail in lights where there had not been sufficient light to produce even the ghost of an image. While prolonged development cannot build where

there is no foundation, it deposits layer after layer where there is, the result being that instead of a series of well-graded lights, from the very highest step by step down to what may be called middle-tint, there is practically only bare glass, all showing on the screen equally white, and instead of an equally well graded series of shadows or darks starting from that middle-tint and going step by step down to the deepest, the only one that should be sufficiently opaque to show on the screen quite black, they have been so piled up by over-development as to be on the screen all equally black, the "soot and whitewash" so well known.

While in negative making there may be considerable latitude in the exposure, exposure is the alpha and omega of perfect slide making, and a perfect or even a merely good one is worth any number of such as are not quite up to the mark. Different makers may reach success by different methods. We have tried many and seen more tried, but the following, properly followed, is capable of yielding slides of the very highest class.

The first essential, of course, is a good and suitable negative, and the second a clean working and otherwise suitable developing formula. While in negative making, the developer may be modified to suit the exposure in slide making the exposure *must* be made to suit the developer, the latter being a fixed quantity; and they should be in such harmony that shortly after the exposed plate is placed in the tray the deposit proceeds in regular order. First, what shall be on the screen the deepest shadow, then that next in order, and so on right through to the other end, there being a trace of the image on the light next to the highest before the shadow next to the deepest has been developed to opacity.

What the developer and what the exposure is of little or no importance so long as they are in the essential harmony, but the following has in our hands answered admirably and keeps well:

Ortol	25 gr.
Potassium metabisulphite.....	12 gr.
Sodium carbonate (crystals).....	150 gr.
Sodium sulphite (crystals).....	100 gr.
Water	10 oz.

Edinol, in the above, may be substituted for ortol and give a warmer color; or the following, which we saw used by a friend who produces some of the finest slides that we have seen in America, may be tried with advantage:

Edinol	25 gr.
Acetone sulphite.....	100 gr.
Sodium carbonate (crystals).....	150 gr.
Water	10 oz.

From five to ten grains of potassium bromide may be added to either, although we have never found it necessary.

The first essential, as already said, is a suitable negative. One full of delicate detail and of steep gradation; but without bare glass or perfect opacity anywhere except in the highest of high lights or the deepest of deep shadows, if such there should have been in the subject, which is rare indeed. Such negatives are not plentiful at any time, and when found are worth many times their weight in gold to the true slide lover, and we earnestly hope that many of our readers on their return from the holiday season may find some such amongst the "Spoils."

And when they are found they should be varnished. The present-day amateur knows little or nothing of varnishing, nor is it necessary that he should, when printing on paper only is practised, the gelatine film being



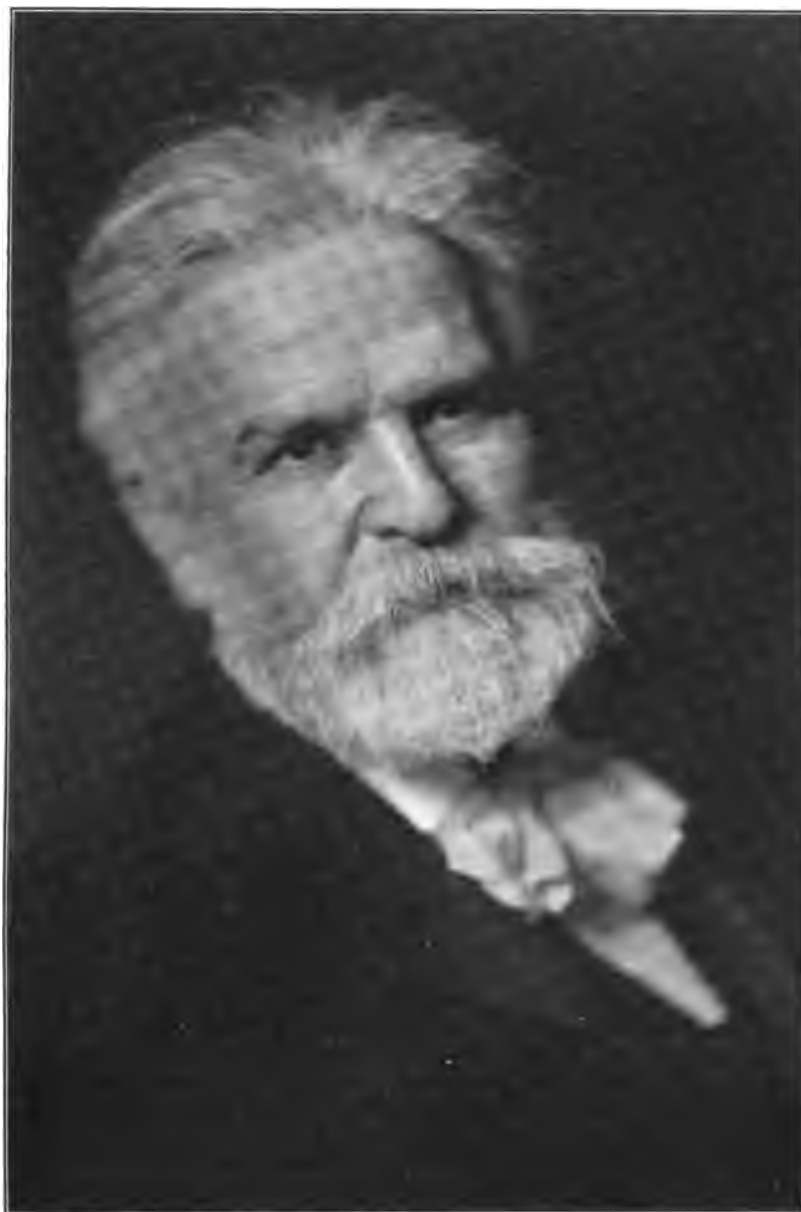
"A JOLLY TRIO."

strong enough to bear ordinary usage. With slides, however, it is different. Printing by contact with the necessary moving about of the plate on the negative is more likely than not to scratch or otherwise injure the gelatine, and an injury that would be of no account in printing on paper would be fatal to slides made from the injured negative and shown with a magnification of something like forty-eight diameters.

There are many varnishes on the market and many formulae by which they may be made, but it is generally better and even cheaper to buy than to make, and the good old "negative varnish," a hard spirit one, is the best. To apply it properly needs practice, but by proceeding as follows the beginner will soon become an adept. Warm the negative before a fire or over a lamp till it can just touch the back of the hand with comfort. Take the plate by the near left corner by the thumb and index finger of the left hand, and the varnish bottle in the right. Holding the negative level, pour in the center a pool considerably larger than necessary to cover it. Then gently incline the plate so as to make the varnish flow to the near left, then to the far left, to the far right, and lastly to the near right. Before it reaches the latter, however, the bottle should be held under it and the plate slowly tilted to let the superfluous varnish flow into it, gradually increasing the tilt and at the same time giving it a rocking motion to prevent it running into lines. When the varnish has almost ceased to drop, and still slightly rocking, again warm the negative, holding it before the fire or over the lamp till quite dry. Although it is as easy as any operation in photography, it needs the "know how," which can only be learned by practice, and the practice should be performed only on wasters.

One of the best slide makers in the London (England) Camera Club says that he is well pleased if he gets two or even one good slide out of each dozen of plates, and while we do not recommend over fastidiousness, we do say never mount a slide that is not as good as you can make it, and that one really good is an enduring pleasure, while a dozen that need to be apologized for are not worth house-room.

KEEPING OF CARBON TISSUE.—It is well known that sensitized carbon tissue rapidly becomes insoluble, three or four days being about the limit of its keeping quality. At the recent Congress in Berlin Dr. Namias called attention to the fact that the potass. salt was better than the ammonium as a sensitizer, and that the keeping power of the tissue was vastly extended by the addition of about an equal quantity, about 3 per cent. of neutral sodium citrate or potassium oxalate to the sensitizing solution. Tissue so sensitized, he said, would keep perfectly for a month, and would be fairly soluble after two months. This should be a valuable hint to carbon printers.



**PORTRAIT
EDWIN MARKHAM.**

Copyrighted 1903
By Pirie MacDonald, N. Y.
Photographer of Men.

Made by the aid of the Cooper-Hewitt Light. (See page 459)

THE PERTH CONVENTION.—ILLUSTRATED.

BY CATHARINE WEED WARD.

TWO years ago I wrote an account (for American photographers) of the Annual Photographic Convention of the United Kingdom, held that year at Oxford, and I hope that it may have influenced some American camera workers to plan their European trips so as to include this great event in British photographic life. Last year we met at Cambridge under the presidency of Sir Robert Ball, the eminent astronomer. It is the custom to receive invitations at the annual business meeting from, generally, two or three cities for the following year, and at Cambridge the choice lay between Perth and Derby, decided in favor of Perth by a close vote. The result justified our choice, as this proved a record convention, three hundred and thirty-three paid subscriptions being received by the secretary. The convention proceedings, lasting a week, opened on July 6th with a reception by our President, Sir Robert Pullar, and the Lord Provost of Perth; and afterwards there was a lantern lecture by William Agate, Esq., of Paisley. Sir Robert was supported in his arrangements by a large and influential Reception Committee, headed by the Duke of Atholl, Lord Breadalbane, Lord Lansdowne and other gentlemen of high position. The interest many of them took was in the way of allowing members to photograph in places closed as a rule to cameras, and this is a great advantage of the convention, that it is possible to obtain permission to photograph places of great historic and literary interest, a rare privilege. At Cambridge, for instance, last year, we were not only allowed to photograph in Ely Cathedral, but the Dean had the seats removed from the octagon, giving an uninterrupted view from the west door to the choir, such removal having been allowed only once before in, I believe, fifty years.

Members begin to gather, generally, on the Saturday preceding the opening day, which is always on Monday, and a party of about a dozen, including among others our energetic secretary, Mr. F. A. Bridge and wife, and such well known men as Alfred Ellis and Ralph Robinson, son of the late H. P. Robinson, with their wives, my husband and myself, started for Perth, making the journey in a reserved saloon. The last part of the trip took us through a part of the English Lake District, and we crossed the border into "bonnie Scotland" just beyond Carlisle, where the hundred pipers of the old song distinguished themselves.

"We'll on an' we'll march to Carlisle Ha',

Wi' its yetts, its castell an' a' an' a'."

England this year, like other countries, has suffered from deplorable weather, and when Sunday at Perth proved to be rainy, we feared for the week's outings. On Monday the skies were brighter, and from then to Saturday we had glorious weather, an important factor considering our excursions were all outdoor ones. Tuesday began our series of these, and we spent a never-to-be-forgotten day at Pitlochrie, Tummel Falls and Pass of Killiecrankie. The Falls had benefited by Sunday's rain and were very full and a great number of cameras tried to do them justice. The Pass affords many charming bits, and after reaching the north end, some

of us tramped on further yet, to the famous battlefield where Bonnie Dundee was killed. It was a long day from 9 a. m. to 9 p. m., but was an experience we all enjoyed. When such an excursion is made it is usual not to hold an evening meeting as, if we have any energy left, we need it to change plates. On this and one or two other excursions, it was arranged that those who wished to cycle could do so instead of going by train. We lunched at Pitlochrie, and from the hotel windows saw a great number of sea gulls on the lawn. It was a beautiful sight and tempted several hand camera members to desert their luncheon to photograph the birds. On our return to Perth most of the members attended a lecture by Dr. Tulloch (Dundee) on "Fact and Fashion in Photography." Slides by local members were shown, also.



Round Tower of Abernethy, said to be Pictish.

Huntingtower, near Perth.

On Wednesday we held the annual general meeting and council meeting, those who were not obliged to attend the latter, making short excursions around and near Perth. A few of us drove to the ruins of Huntingtower, once Ruthven Castle, a former seat of the Earls of Gowrie and famed in Scottish song.

"Blair in Athol's mine, lassie,
Fair Dunkeld is mine, lassie,
St. Johnstoun's bower and Huntingtower,
And all that's mine is thine, lassie."

It was rather a rush to get back for lunch and dress for the garden party given by Sir Robert and Lady Pullar at their beautiful home on the further side of the Tay from Perth. We were most hospitably entertained, and the official group was taken in the grounds. At seven o'clock

the annual dinner and concert took place at the Salutation Hotel, and one hundred and eleven members were present. This is always a great function and the feature of the evening is the toast list. Altogether Wednesday is always a full day.

We had to leave Perth on Thursday morning soon after nine o'clock and spent the day at Birnam and Dunkeld, taking luncheon at Birnam. On the river bank behind the hotel stand two trees, all that is left of Birnam Wood, which so alarmed Macbeth at Dunsinane. These trees are perfectly vigorous and are supposed to be over 1,000 years old. The scenery in the neighborhood is very fine. The party divided on reaching Birnam and a few started at once for Dunkeld Cathedral, a portion of which is used for services, but the nave is in ruins. To the northwest stand



Dunkeld Cathedral, South Door.



Ancient Stone Pillar, Meiklour,
with Hole for Weighing Beam.

"the parent larches," as they are called, being two of the earliest of those trees introduced into Great Britain from the Tyrol in 1738. The Cathedral has some remarkable monuments in the ruined nave and in the vestibule of the modern church are others (one said to be Culdee), removed from the ruins. Some good results ought to have been obtained by those members fond of architectural subjects. Near the cathedral is Dunkeld House, belonging to the Duke of Atholl, who allowed us to explore the magnificent grounds, through which run the rivers Tay and Braan; these with the gorge through which they flow, yield scenes of great grandeur and beauty. Plenty of work was found for our cameras, here and in the cathedral, more than we could do in a day.

On Friday we went to Blairgowrie, and this included considerable

driving. A piper met us at Cargill station and performed with great effect on the way, as he rode in the first brake. We were taken first to the village of Meiklour, with its famous Beech Hedge, planted soon after Cul-loden, and now nearly a hundred feet high; to the village itself with its quaint market cross, erected in 1698, and then we drove into the grounds of Meiklour House, belonging to the Marquis of Lansdowne. The residence stands high, overlooking the Tay, and from the entrance one can see through a cutting in the trees the crest of Dunsinane Hill, and the terrace overlooks the waters of the Tay, where are often found very good pearls, and we saw some in the shops at Blairgowrie. At present the place is rented by the Duke of Bedford for the shooting and fishing, but it seems hard that such lovely estates should be deserted, save for servants, the greater



Tomb of Bishop Carkney, A. D. 1420.

Ruins of Nave, Dunkeld Cathedral.

part of the year. Near the park entrance is the old Tron, a stone pillar, to which are fastened the joughs for holding prisoners, and near the top is a circular opening through which the beam used for weighing wool once passed. Leaving Meiklour, we drove to Blairgowrie, where we were most hospitably entertained, our piper covering himself and his pipes with glory, and then, resuming our seats in the brakes, we drove to Craighall, the residence of Lieut.-Gen. Sir James Clerk Rattray, and occupied by the Rattrays since 1650, though the family has lived in the neighborhood since before the Conquest. Craighall is supposed by some authorities to be the original of Tullyveolan in Waverley, and in the gorge the Baron of Bradwardine hid from the troops. The house seems almost to cling to the side of the deep gorge through which, two hundred and fifty feet below, rushes the River Erich. Paths are cut along the upper bank and about

a mile from the house a fine view of it is gained. We regretted we could not explore fully the grand ravine, one of the finest in Scotland, resembling Roslin Glen, near Edinburgh, but far grander. We had, however, to reach Blairgowrie for tea, after which we very reluctantly bade farewell to our friends there and returned to Perth, making many resolves to see Blairgowrie again. That evening there was an illustrated paper read by Dr. Gustav Mann, of Oxford, on "Micro-photography." Friday is always a sad day at the convention, as many members return home the next morning, and Saturday is generally a broken day; but at Perth a large proportion of us remained for the excursion to Linn of Campsie, Stobhall House and Scone Palace on Saturday morning. Campsie Linn, a rocky part of the River Tay, is mentioned in Scott's "Fair Maid of Perth," and is reached from Stobhall by a charming woodland path on the banks of the river. Stobhall House itself was the original residence of the Earls of Perth, and in a secret place over the chapel, with its curious paintings on the ceiling, the Duke of Perth hid after Culloden. The old place is very interesting and its quaint garden was utilized as the scene of one



Tummel Falls, Pass of Killekrankie.

Round Tower of Abernethy.

of Millais' paintings. After a hasty lunch, *al fresco*, we drove on to Scone Palace (pronounced Scoon), the seat of Earl Mansfield. The house is modern, but the grounds are very extensive and magnificent, and in them are two trees planted, one by Mary of Scotland and one by her son James, still in full vigor; also the ancient market cross which stands now near the fine old gateway. Nothing is left of the village save the graveyard, a very little of the Abbey where once rested the Stone of Destiny, brought there from Dunstaffnage Castle and now in the coronation chair at Westminster, but in the palace there is much old furniture from the previously existing mansion. Sir Robert and Lady Pullar drove out from Perth to bid us farewell, as we were to scatter in all directions after leaving Scone, and it was with genuine regret we did so, for we felt under deep obligations to our president and his wife for their cordial hospitality.

While Perth itself has been much modernized, there are some special points of historic interest, such as the open spaces known as the North Inch and the South Inch and bits of the old town, while some ancient portions of St. John's Church yet remain, in spite of restorations, such as the stone supports of the pulpit from which John Knox thundered the sermon



Chapel at Sothall House, with Ancient Paintings.

that caused the destruction of so many ecclesiastical buildings in Scotland. The church is now divided into three parts by stone partitions, for some inscrutable reason, and a separate congregation worships in each. A short distance from Perth are Kinnoull and Moncrieffe hills, and at the base of Kinnoull stands Kinfauns Castle, a modern building on the site of the one described by Scott in "The Fair Maid of Perth." Seven miles out is Abernethy, possessing one of the curious buildings known as Round Towers, of which there are only two in Scotland.

I must not neglect to speak of the local secretary and Committee of Arrangements, which, with the convention secretary, Mr. Bridge, labored for months to make the plans for our enjoyment. It will interest Americans to know that the local secretary, Mr. Henry Coates, was born in Philadelphia.

Next year we are to meet at Derby under the presidency of Sir William de W. Abney, but we were also invited to Dublin (where we met in 1894) and to Southsea. I strongly advise American photographers, both professional and amateur (for no distinction is made at these conventions) who may be in England next July, to go to Derby, where they will be cordially welcomed and thoroughly enjoy themselves. I know whereof I speak, having attended eleven conventions as an active member. Many ladies were present, and some are doing excellent work. The subscription is only five shillings (\$1.25), and the various excursions are, of course, extra, but the charge is reasonable.



Tomb of Alexander,
(3rd son of Robert II of Scotland.

House of "Fair Maid of Perth."

SPECIAL SUBJECT SERIES.—X.

Carbon Printing—Continued.

BY DR. JOHN NICOL.



BEAUTIFUL as is the carbon print when finished, as already described, there are those who desire a surface of a different kind—the pearly beauty resulting from the ground surface of an opal glass, or the highly glossy surface of polished plate. In either case the first step is to clean the plate thoroughly; if new, by an acid, and if old, by an alkaline solution. It must then be waxed and coated with collodion. The waxing solution may be beeswax, five grains; benzole, one ounce, dissolved by heat if necessary and applied by a piece of white flannel moistened with it. It is easier to do than to describe, but what is required is a highly polished surface, with an imperceptible film of wax left on it.

It will generally be better to buy than to make the collodion, but those who desire to make it should dissolve from four to six grains of pyroxiline in an ounce of equal parts of alcohol and sulphuric ether, let it stand till quite settled and decant. The coating with collodion is also, after a little practice, easier done than described. I take the near left corner of the plate, if not larger than $8\frac{1}{2} \times 6\frac{1}{2}$, between the thumb and first finger of the left hand; if larger, then the thumb presses on the upper surface of the corner and the points of all four fingers are spread out to support it below. In this way, holding it quite level, I pour in the centre a pool of the collodion large enough to much more than cover it. By successively lowering corner after corner the collodion is made to flow first to the near left, then to the far left, to the far right and lastly to the near right, from which it is allowed to flow back into the bottle, gradually tilting and at the same time rocking to prevent it from running in streaks. If several plates are to be coated at the same time the surplus from each should not be turned into the coating bottle, as dust might be thereby conveyed to the next plate. It is better, therefore, to



**PORTRAIT
RUSSELL SAGE.**

Copyrighted 1903.
By Pirie MacDonald, N. Y.
Photographer of Men.

Made by the aid of the Cooper-Hewitt Light. (See page 459.)

pour it into a separate bottle, mixing them together when all have been coated.

After coating, the plate should be allowed to "set," that is, the collodion should be firm enough not to run, and yet soft enough to take the impress of the finger when touched, probably about a minute, and then placed in a tray of water. Here it should be rocked, or after an immersion of several minutes washed under the tap till what looks like greasiness disappears; till, in fact, the alcohol and ether have been removed.

The plate is now ready, if by single transfer, for the development of the printed tissue, or for the second transfer of a print already developed, and in either case the tissue and the plate are brought together and treated as already described. In the case of the print on the highly polished plate, and where the glossy surface is to be retained, the support must be strengthened so as to render mounting unnecessary, moistening after removal from the plate being inimical to gloss. This may be accomplished by pasting on the back of the print several sheets of stout paper, or, perhaps, more conveniently by moistening and squeegeeing on two or three pieces of the permanent support supplied by the dealers. It only remains now to let the print on the glass get thoroughly dry, and then strip it as before explained.

Of all carbon prints those on celluloid are perhaps the most attractive, and certainly to a certain class of picture lovers the most beautiful. It may be employed either in single or double transfer. Transparencies on it have all the beauty of those on glass, with all the advantages of those on paper; while it may be got in sheets white or tinted and needs neither waxing nor collodion. In single transfer, which for most landscapes is perfectly suitable, the tissue is developed on it, and it is used as the final support in double transfer, but for the best results on it as for transparencies generally, special transparency tissue should be used.

Hitherto I have spoken of and recommended carbon for its beauty and its simplicity over all other printing methods, and now I come to another of its qualities where it is only an intermediary as a means of enlarging. The days of large cameras in the field are rapidly passing away, and small negatives for subsequent enlargement are the rule rather than the exception. Not the hitherto popular enlarging direct on bromide paper, although that may still for certain purposes continue in occasional use, but the making of negatives only of from two to four diameters greater than the small negatives, and for that purpose a transparency containing every degree of gradation that is in the negative is a *sine qua non*, and by carbon and only by carbon can that be accomplished.

Transparencies for enlargement, as already said, must be made on "special transparency tissue," a tissue containing a much larger quantity of coloring matter than the ordinary kind and very much finer ground. When sensitized and dried in the ordinary way the surface is not smooth enough to be brought into sufficiently close contact with the negative where the most perfect detail is essential, and therefore for this purpose, on removal from sensitizing solution, the tissue is squeegeed on to a colodionized glass plate from which, when perfectly dry, it comes off with a highly polished surface.

Printing for a transparency must be carried further, probably twice as far as for a paper print, and the print is developed in the same way, only that previously to development it is transferred to a glass plate free from air bubbles, scratches or faults of any kind, and it is advisable to add a few drops of acid hydrochloric to the water in which the print is soaked and under which the transfer is made. The glass needs no preparation, neither waxing nor collodion.

Between transfer and development, in this case, at least half an hour should elapse, and at first the developing water should not be warmer than 95 degrees F., raising it gradually according to circumstances. Except for these few precautions, the development of the transparency is exactly the same as that of the paper print, and when successful—and the simplicity is so great that only a very little experience is required to secure success every time—the result is very much better than could be reached by any other known method.

Only one thing is required to make the making of enlarged negatives perfect, the increasing of the sensitiveness of carbon tissue to an extent that shall make possible the copying in the camera of the transparency in a reasonable time. Were it not that I know that photographers have short memories, I should say that fame awaits the man who will tell how to make such a sensitive tissue.

The quality that makes the carbon transparencies pre-eminently suitable for making enlargements makes them equally suitable for lantern slides. A good slide is one of the most beautiful of photographic productions, and an essential quality of a good slide is true values and perfect gradation, and those are got on carbon easier than on anything else.

While for the highest quality of slides the special transparency tissue is necessary, they may be made of a quality far ahead of the best by even wet collodion on most of the ordinary tissue, and as that is procurable in at least fourteen different colors and shades, the slide maker can give a variety to his output unobtainable by any other method.

What was said as to transparencies for enlargement or enlarged

negatives applies equally to the making of slides, and as either side may be placed next the condenser in the lantern, only single transfer is ever necessary. It goes without saying, however, that only glass of good quality, and every one free from faults of any kind, must be selected, and neither waxing nor collodion is required. In using colored tissue, however, it is advisable to see as to the coloring matter, whether transparent or merely reflected color, as if the latter it will, on the screen, be as if it were black.

Although carbon or pigment is the simplest of all printing methods, the beginner is likely to encounter difficulties or meet with failures through inattention to what may to him seem little or non-essential matters. The following are the most likely.

In developing the pigmented gelatine washes off too freely, leaving the picture too pale and without half tones. The cause is under-exposure or the water too hot.

The gelatine does not dissolve readily enough even under warmer water, and the image is altogether too dark. The exposure has been too long, the water not hot enough, or the tissue has become partially insoluble from age.

The print refuses to leave the flexible or temporary support. The waxing has been insufficiently done, or the final support has not been sufficiently soaked before bringing them together.

The print does not adhere properly to the support, either the temporary or final. The tissue has been allowed to remain too long in the water before being brought into contact with the support.

The print has a patchy appearance. The surplus water had not been blotted off before squeegeeing it on to the support.

The picture is granular or reticulated. The tissue was not left long enough between the squeegeeing on of the tissue and development.

In conclusion, I would say that although three articles have been devoted to this subject, I have little more than touched the hem of the garment, and had for my object only to so interest my readers in the beauty and simplicity of the printing as to send them to one or other of the several excellent hand books that would complete their conversion and induce them to make the single trial that would make them enthusiastic pigment printers.

Probably the best as well as the latest of these is by Thomas Illingworth. The title is "Carbon Photography Made Easy," and it may be obtained from our publishers, the price being 50 cents. G. Gennert, New York, who carries in stock carbon tissue in all colors and all the other

requisites for carbon printing, publishes a little manual on the subject, which covers the ground fairly well, and this he will send free on request.

Speaking of carbon printing in a recent issue of *Photography*, the editor says:

"Many of our readers are deterred from taking up carbon work, we fear, from a belief that it calls for special apparatus. This is a great mistake. Beyond a squeegee there is really nothing that is indispensable in carbon work that cannot be found in the ordinary house or dark room. The squeegeeing board can be extemporized from a slab of slate or a sheet of glass, the dishes are doubtless at hand, while the materials comprise a packet of cut pieces of tissue, a packet of pieces of transfer paper, a scrap of P.O.P. for an actinometer, some alum, a little potassium bichromate, and plenty of hot water.

We think it only wants these facts to be grasped by every photographer for the carbon process to receive a large accession of enthusiastic workers. As is well put in the preface of Mr. Illingworth's book, the process "has the simplicity, almost, of blue printing, it has all the richness and delicacy of tone characterizing silver, and has the permanence of platinum, while over and above all these is a range of color that is all its own." With every word of which I heartily agree.

WORDS FROM THE WATCH-TOWER.

BY WATCHMAN.

WHAT is the tyro to do when would-be teachers differ as wide as the poles in one of the most important factors in pictorial photography? The editor of the *Photo-Era*, by way of making his August number a "marine" one, gives us some fine photographs of yachts, breaking waves, children on the beach, etc., and has allowed at least two writers to tell us how to produce them. The one says "the lens should be of short focus," and the other that "the chief defect in pictures of this kind is lack of perspective and untruthful drawing, resulting from the use of short focus lens."

"You pays your money and you takes your choice," but the experienced photographer will realize the reliability as a teacher of the short focus advocate when he knows that he says of marine photography generally: "There is less chance of failure in this field than in almost any other branch of the art." All that can say that hold up your hands.

Of course, I know, as do most who use shutters, that *all* shutters do not correctly record *all* the speeds that their makers engrave on them; and I know also that it is not given to all who aim at ascertaining shutter speeds to do so correctly. So long as it is the mere man, however, the ordinary photographer, and the amateur at that, I let it go, as his conclusions are generally taken for just about what they are worth. But when it comes to a college professor, and one so well known as A. W. Goodspeed, whose very name should mascot his shutter testing, but who, nevertheless, with one particular shutter at least, goes astray, that is, gives a rating so different from mine and from others that have been made before and since, as to be ludicrous.

In a paper read before the Photographic Society of Philadelphia, and which has been reproduced or noticed in most of the British photographic magazines, Professor Goodspeed says he found that shutters marked to act in the 150th part of a second really worked in the 53d part of a second; shutters marked 1-100 worked at 1-45, 1-75 at 1-24, 1-25 at 1-17, 1-12 at 1-10, and so on; the lower the marking the more accurately the shutter worked. The so-called "Volute shutter" he did not consider of much value. When set for 1 second, it really worked in 3; 2 seconds, it worked in 5; 3 seconds, very slowly indeed.

Now, I can say nothing as to any of the other shutters tested, as he does not say what they were; but the Volute has been my constant companion ever since its evolution, and while I know that shutters pneumatically operated or depending on compressed air for their action *may* vary slightly under varying conditions, and that two shutters of the same make by the same maker may differ from each other, knowing the nature of the construction of the Volute as I do, I cannot understand how two of them in equally good order could give such readings as that tested by the professor and mine tested by myself and others.

The refinement of the tuning-fork and other equipments so easily obtainable in a college laboratory were not within my reach, but Pickerings, speed tester, as made by the Carter Ink Company, is delicate enough for photographic purposes, and the readings with it from the speed markings on my Volute from half a second up were, without exception, near enough for all practical purposes. Too far from home and its conveniences to repeat those tests at present, but so staggered by the professor's statement regarding the more lengthened periods that I could not rest till I had again applied such tests as were within my reach, and although they were crude enough, they were sufficient to show that my shutter tells the truth and has stuck to it over a year's pretty constant use.

The apparatus consisted of a piece of twine, one end of which was fixed to the transom between two rooms, and a stone from the beach attached to the other. This, when properly adjusted, formed a pendulum swinging half seconds; and with the eye on both shutter and "bob" it was easy to read to at least quarter seconds. I did not, of course expect perfect accuracy; even the best chronometers need to be rated, but I got it, or rather the rating, sufficient for a guide in all probable exposures. The most convenient method seemed to be to set the pendulum swinging

its half seconds, bring the shutter, set for snapping, and bob in a line so that both can be seen together, and just as the latter is on a return swing press the bulb and count *one, two, three*, etc., at each reversal of the bob till the shutter closes. As one was counted at the pressure of the bulb and consequent opening of the shutter it will be evident that it must be deducted from the total in each case; thus, in testing with the pointer set to three seconds the leaves of the shutter invariably closed as *six* was pronounced, so that they had been open during a period of only five half seconds, or two and a half seconds. In the same way the two seconds, instead of the leaves remaining open till *five*, invariably snapped close within just an appreciable time after the saying of *four*, so that it is near enough to say that with the Volute in question, at least, the *three* and *two* seconds are slow to the extent of one-sixth, but, like equally excellent instruments of precision, that rating is constant and can always be allowed for. Repeated trials with the shutter set to one second showed that if there was an error it was so small as not to be detected by the human eye; the three and the closing of the leaves were practically simultaneous.

This must do in the meantime, or until I can get where more accurate means of shutter testing is within my reach. Perhaps I should have waited till then instead of writing this imperfect notice, but the Volute is with me a hobby, and I could not stand by and let it be supposed that it was its nature to behave so badly as Professor Goodspeed supposes. But I shall resume the subject as soon as I conveniently can produce photographic evidence of the reliability of the Volute shutter.

* * *

That doctors differ is to be expected, but surely their differences is never so much as is that of Walter E. Gates and all other writers on the relative sensitiveness of carbon tissue and P.O.P., or printing out paper. In an article in *The Photographic News*, in speaking of the sensitiveness of bromide paper, he says: "I show you a negative, a carbon print from which required forty-five minutes in the shade at noon on a sunny summer's day, the corresponding exposure for a P.O.P. print being quite three hours, while a bromide print required only sixty seconds at 18 inches from a gaslight." Here I've nothing to do with his bromide statement, but if he means, and I think he does, that the relative sensitiveness of carbon tissue to printing out paper is as forty-five minutes to "quite three hours," he is off, and very far off, his eggs.

This journal has always taught, and I bet on its editors every time, that in the absence of an actinometer in carbon printing a piece of P.O.P., such as solio or albuma, exposed alongside of the tissue under a negative of similar density would, when printed just to the extent that it should appear after fixing, show that the tissue was sufficiently exposed. In other words, normal carbon tissue and ordinary printing out paper are practically alike in sensitiveness, W. E. Gates to the contrary notwithstanding.

* * *

That W. E. Gates is a weak brother and untrustworthy teacher is shown hardly less clearly in another paragraph. Still speaking of bro-

mide prints and the necessity of thoroughly removing the acid in the after washing water, he says that unless this is thoroughly done "the half-tones of the print will be as fleeting as the P.O.P. toned in a combined bath," unaware, apparently, that other authorities, including Mm. Lumiere and Seyewetz, have declared that prints properly toned in a properly made up combined bath are as permanent as if toned in separate solutions.

* * *

The vagaries of our Custom House officers are such that "no fellow can understand." Some time ago they held that American made plates taken to Britain and exposed should, on their return to the country, pay according to a certain, or rather, uncertain tariff because of the latent image supposed to be on them. It is true that they were in that case called down, but no credit to them for that. Now, I see from a statement in *Photography* that the editor thereof, in a recent visit to the United States, brought with him "a high class camera and more than a gross of British plates, which were passed by the customs authorities without the slightest demur." Can it be that strangers are treated with courtesy while Americans are regarded with suspicion?

THE SEMI-CENTENNIAL OF THE OPTICAL INDUSTRY IN AMERICA.

BAUSCH & LOMB is a combination common as a household word and more frequently on the tongues of photographers wherever they do congregate than any other. We refer to it now because of an invitation we received to attend and participate in a celebration of the "Golden Jubilee" or fiftieth anniversary of the founding of that greatest of optical firms in this country at least, and not far behind the greatest in any country. Circumstances, unfortunately, prevented our acceptance of the invitation, and for the following we are indebted to a report in the firm's excellent magazine, the *Journal of Applied Microscopy*:

When, in July, 1853, J. J. Bausch and Henry Lomb agreed to join their forces and try the grinding rather than, as then almost universally, importing of spectacle lenses, they were for a time content to do so on the old hand machine, little thinking that a time or a demand would come when under one roof they would have a row of machines not unlike a row of looms in a weaving factory, almost automatically turning out lenses by the hundred thousands. The scarcity of gold incident to "the war" made the weak eyed glad to get their spectacles and eyeglasses mounted, first in horn and then in hard rubber or vulcanite, and soon they were making the frames as well as the lenses.

That they made them well is shown by the fact that from first to last there was and still continues a constant growth, the little shop with its two occupants and a few local customers becoming a factory employing

1,200 highly skilled workmen, the work of whose hands finds its way into every corner of the globe where instruments of precision are employed.

By 1875 the new generation was showing its inherited energy and ability, and what may be called the creation of the American microscope had its inception; a creation that has added immensely to the teaching ability of our educational establishments, and by supplying good microscopes at a price within their ability, given pleasure to thousands. The introduction of the microscope led to a demand for the hundred and one things connected with its use, and the supply naturally followed, even to the extent of the establishment in Germany for the manufacture of chemical glassware.

Just when they began to cater to the photographer we do not know, but their "diaphragm shutter" first brought the name of the firm into the photographer's vocabulary, a popularity vastly increased by their great competition in 1891, at which we had the honor of acting as judges. This was followed by their Zeiss lenses, and more recently the plastigmat and Volute shutter, a combination for almost all kinds of work, as near perfection as we may hope ever to reach.

The following account of the entertainment we clip from the reports:

"In commemoration of the completion of their fifty years of business, the Bausch & Lomb Optical Company tendered a complimentary entertainment to their 1,200 employes and to about 1,000 invited guests in the Lyceum Theatre. The exercises were opened with an address by Hon. A. J. Rodenbeck, Mayor of Rochester, in which he reviewed the history of the development of the company from its small beginning to the present time, and referred in a touching manner to the fifty years of congenial association which Mr. J. J. Bausch and Mr. Henry Lomb have enjoyed, and to the growth of the industry which has, in its own developments and in the development of the allied industries which it has made possible, made Rochester the optical center of the world.

"Judge William E. Werner also made an address, reviewing the relations of the industry with the development of the optical trade, and development of optical sciences.

"In addition to these addresses, a choice musical programme, interspersed with monologue, dialogue and other entertaining numbers, was rendered. During the intermission, Senator W. W. Armstrong appeared on the stage and requested that Messrs. Bausch and Lomb be brought before him. When they had been escorted to his presence by two of the oldest employes of the company, Senator Armstrong uncovered three massive golden loving cups, which he presented in the name of their 1,200 employes, one to Mr. J. J. Bausch, one to Mr. Henry Lomb, and one to the Bausch & Lomb Optical Company. The cups presented to Messrs. Bausch and Lomb had etched on one panel a representation of their first humble factory, and on another the present structure. On the third panels were presentation inscriptions which read: 'Presented to Mr. J. J. Bausch in commemoration of the fiftieth anniversary of his association with Mr. Henry Lomb, and of the founding of the Bausch & Lomb Optical Company, by their employes—1853-1903,' that pre-

sented to Mr. Lomb being similarly engraved with the substitution of his name for that Mr. Bausch. The cup presented to the company was engraved on one panel with the first and present factory buildings, on another with the profiles of Mr. J. J. Bausch and Mr. Henry Lomb, and on the third with a presentation inscription, which was: 'Presented to the Bausch & Lomb Optical Company in commemoration of their Fiftieth Anniversary, by their employes—1853-1903.'

At the door of the theatre each guest was presented with a large envelope containing a beautifully engraved and embossed announcement of the completion of fifty years of optical manufacture; a souvenir brochure containing an historical sketch of the development of the Bausch & Lomb Optical Company's manufactory from its beginning to the present time, by L. B. Elliott, and a programme of the evening's exercises."

Nor is the popularity of the firm and its output confined to America or the lenses that bear its name. In looking over European advertisements of cameras and lenses it is more common than not to find "Bausch & Lomb's Unicum Shutter," and it is within our knowledge that thousands of the most popular cameras on the market are fitted with lenses made by the firm, although they are like the "Nameless Lassie," and they are like her also in quality, without a fault.

NOTES.

THE OPTICAL MAGIC LANTERN JOURNAL AND PHOTOGRAPHIC ENLARGER.—We are sorry to learn that this, almost the only periodical dealing exclusively with the optical lantern, and started by one of the sons of the late J. T. Taylor some thirteen years ago, has at last given up the struggle. It has twice changed hands and once its local habitation, but neither the new blood nor the new locality proved sufficiently stimulating to counteract the overburdening of such a heavy title.

To those who maintain that interest in the lantern is waning the demise of the little magazine will be another proof of the justice of their contention; but the lantern and photography are so closely associated that the student of photographic literature finds in his favorite journals all that he cares to know about projection.

AN INCREASE IN RAPIDITY.—During the past few months there has been a phenomenal increase in the sensitiveness or rapidity of the plates of several British plate makers. First Marion & Co., with their new P. S. series; then Ilford Ltd's "Monarch," followed by the Paget Dry Plate Co.'s "Swift," and from the accounts that reach us, they all seem well entitled to the term we have applied to them. Speaking of them, the editor of *The British Journal of Photography* says: We think these new plates bring fresh possibilities within the range of the photographer. The telephoto attachment has been frequently recommended to the portraitist as the means by which we may obtain larger images without unpleasant

perspective in a short studio. It also has the advantage of bringing the length of the camera within a reasonable limit. These new plates will be found of great value for the telephoto lens, as they reduce the exposure by at least one-half, as compared with the extra rapid plates to which we have hitherto been accustomed. To put our opinion to the test of experience, we took a photograph, out of doors, at five o'clock in the evening. The sky was overcast. The lens we used had an aperture of $f-6.8$, and as the magnification of the image by the telephoto attachment exceeded four diameters, the intensity of the lens, as used, was reduced approximately to $f-28$. We gave a rapid hand exposure, which certainly did not exceed one second. The negative was good. There is, however, one other recommendation for using the telephoto lens for portraiture. The negatives appear to require less retouching. If we may use the expression, the image appears to be sharp, whilst wanting in decisive sharpness. This gives the skin an appearance of texture, whilst avoiding the harshness the retoucher's pencil has to remove. With these plates of extreme sensitiveness, we think the telephoto lens deserves greater attention from the professional photographer than it has yet received.

Just how this greater rapidity has been reached the makers, of course, keep to themselves, but it may be taken for granted that their American brethren will not long remain behind. Hitherto the general belief has been that rapidity and large grain went hand in hand, although a noted Edinburgh microscopist showed that to be a fallacy six or eight years ago; and now Dr. Lüppo-Cramer finds what may be the true cause. He finds, as was well known, that silver bromide produced by the addition of silver nitrate in solution to a solution of, say, potassium bromide and gelatine, consists of amorphous globules of various sizes or of more or less numerous globules massed together; such masses having a tendency to increase in size through time, which may be considered, in this case, a "force," the increase increasing with increase of temperature. When, however, the emulsion has been "ripened" by any or at least some of the well understood ways and the silver bromide examined under a magnification of 1,000 diameters, the amorphous is found to have given place to the crystal-line throughout, the structure being six-sided.

Whether sensitiveness goes hand in hand with more or less perfect crystallization he does not say, because he does not yet know, but the probability is that he is on the right road to a discovery in which we are all deeply interested.

PICTURE POST-CARDS.—Why do we remain so far behind in the picture post-card craze? Swarms come but few go. Is it because our photographers and those who produce the cards are less energetic; that we visit other countries more than the people of other countries visit us; or is it that we are too busy with matters of greater importance to be troubled with trifles?

From the recent annual report of the British Postmaster-general we learn that in England the picture card during the year has increased by 6.2 per cent., while in little Scotland it has jumped to 17 per cent., and that during the year there passed through the office no less than 488,900,000.

From a number of small blocks made to illustrate the circular of one

of the hotels at our summer home, an energetic friend produced a series of picture cards, costing nothing but the cards and the "pulling," and here they have gone off like hot cakes. We don't just know how much has been realized, but several large editions have been sold out and the cry is still for more.

This is a hint with money in it.

PICTURE POST-CARDS.—*Photography* gives the following as a good method for the production of picture post-cards, and it is one peculiarly suitable for the professional photographer in places of popular interest, or indeed anywhere. By placing reduced portraits of his sitters on cards and showing them he might fill up both his leisure time and his pockets. The cards, or such parts as are to be covered by the "pictures," are brushed over with a 20 per cent. solution of *green* ammonia citrate of iron, with a trace of ammonia, and dried in the dark. Printing should be done under sunlight, and the image developed with a one per cent. solution of silver nitrate acidulated with acid citric. It may or may not be toned with gold in the usual way, and should be fixed in a one to twenty solution of hypo.

The following, from *The Amateur Photographer*, is more elaborate, and answers admirably, one amateur, to our certain knowledge, having supplied the clerk at the hotel where he spent his holidays with enough to more than pay his bill for three weeks; and they were mainly from snap shots:

A.—Green ammonia citrate of iron.....	18 gr.
Tartaric acid.....	6 gr.
Distilled water.....	3 oz.
B.—Gelatine	60 gr.
Distilled water.....	2 oz.
C.—Silver nitrate.....	96 gr.
Distilled water.....	2 oz.

Soak the gelatine in B until soft, then dissolve by gentle heat, and add A, with rapid stirring; when well mixed add C. Apply with a soft brush (not mounted in metal) and dry in darkness. After printing, wash in water, and fix in weak hypo solution; then again wash and dry.

CELLULOID CARBON TISSUE.—We have already noticed the advantage to be derived from coating celluloid with the pigmented gelatine, printing through the celluloid and so developing an unreversed image without transfer. Dr. Hanneke gives the following working details in the *Photographische Mitteilungen*: *Sensitizing*: 1½ minutes in potassium bichromate, 30 grammes; water, 1,000 grammes; ammonia, 23 c.c. *Drying*: Excess of solution removed by blotting paper, and film hung up to dry or pinned down to cards, sensitive side up. *Exposure*: Use as soon as convenient after sensitizing, and regulate exposure by an actinometer. A normal negative will require twelve on the Vogel or Sawyer photometer. *Development*: Soak in cold water for five minutes, then lay the film, carbon surface upwards, in a dish containing water at 40 to 50 degrees C. This dish is agitated by a side-to-side movement, and if the exposure has been correct the image will be developed in six or ten minutes. In case of over-exposure, a few drops of ammonia may be added, and warmer water may be used. The developed film is rinsed in cold water and hung up to dry. *Transfer to paper*: The film print and the transfer paper are soaked in cold water for one to two minutes, drawn out with the coated sides to-

gether, and contact is established by laying on a glass plate and rubbing down with the hand, also by subsequently pressing between folds of blotting paper. Adhesion being thus established, the combination is subjected to pressure for about half an hour in a printing frame or between glass plates clamped together, and after this it is hung up to dry. When dry, the celluloid film can be stripped off, leaving the carbon print on the paper. *Window Transparencies*: All that is necessary is to mount the developed celluloid film between glass plates, and to bind the edges. For other details we must refer the reader to Herr Hanneke's paper.

THE COOPER-HEWITT LIGHT.

THE withholding of honor from a Prophet in his own country would seem, to a certain extent at least, to apply to the inventor of the Cooper-Hewitt lamp as well as to other outcomes of the prophetic or inventive mind. On this side few have heard the name and fewer still could say what it is, or give anything like a rational description of its nature and properties, while on the other side, taken in hand by the Westinghouse people, it has been demonstrated, if not, in the words of the showmen, "before all the crowned and most of the half-crowned heads of Europe," before those who could appreciate it better, the leaders in science and literature in what really is the world's capital.

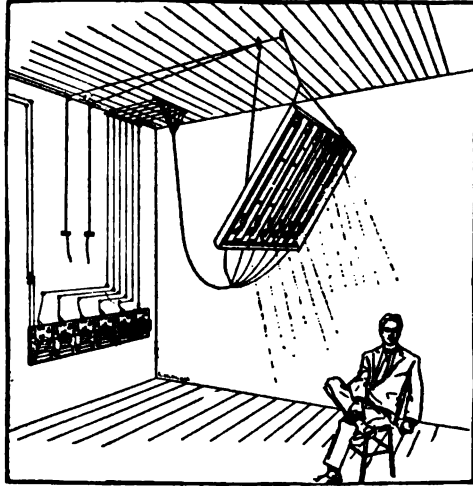
Here, so far as we know, it has been noticed only by a paragraph here and there, although, unless we are very much mistaken, it has before it a future in connection with photography greater than any source of light hitherto dreamt of. And, in this country at least, Pirie MacDonald has the honor of leading the way.

Briefly, the Cooper-Hewitt lamp may be said to be something between an arc and an incandescent arrangement; although literally it is mercurial vapor made luminous. A glass tube of say, two inches diameter and four feet in length, although it may be of any size within limits, with a ball blown on one end. Wires are fused into top and bottom and in the lower end, is placed a quantity of mercury. The current converts a portion of the mercury into vapor which rises in a luminous stream to the bulb at the top where it is condensed and falls back to the bottom. This continues as long as the current passes, and as there is no destruction of the mercury the lamp should have a long life, although just how long remains to be seen.

Pirie MacDonald is a specialist, "a photographer of men," and it is well for the sake of the Cooper-Hewitt lamp that he is so, as under its rays the human countenance has an aspect so ghastly as to make the fairer portion of humanity turn and flee, or at least to refuse to be photographed under it on any consideration. The light includes only the two lower rays of the spectrum, the blue-violet and the green; hence not only is there an absence of everything red, but also a reversal of every shade into which red enters. Visually, of course, this is a serious objection to the general use of the mercurial vapor lamp, nor can it come into anything like general use till a method is found of supplying the lacking ray. One of the methods to supply the lacking red is to run some red incandescent lamps in

connection with the Hewitt lamps. Photographically, however, the red is not missed, as, although even the ordinary plate is to a certain extent sensitive to it, it is so slightly so as not to take any part in the exposure of portraiture, as is abundantly shown by the fine examples by Mr. MacDonald in this issue.

Mr. MacDonald employs a frame of three tubes or lamps, each about four feet in length and an inch and a half in diameter, one, two or all three being employed as desired. Each tube being 700 candle-power, the light of the three is 2,100 c. p., sufficient for ordinary conditions. The cut herewith shows a frame of five tubes (3,500 c. p.), powerful enough for the largest figure work or groups. At the office of the Cooper-Hewitt Electric Co., 220 West Twenty-ninth street, New York, the various lamps may be seen in operation.



METHOD OF USING THE FRAME OF COOPER-HEWITT LIGHT TUBES IN PHOTOGRAPHY.
New York Herald.

"I believe I am the first photographer to use this lamp," said Mr. Pirie

MacDonald, "and, although I have had it installed only a few weeks, I would not now be without it, because I have learned to depend upon it. You see, my difficulty has always been the question of light. I use very little light—only what you see coming through these two windows. A bright, glaring light, as you know, does not give any delicate modelling on faces, and that tone quality is what I am after. My best light here is about 11 o'clock. After that the smoke of the city closes in and it is all over. Unfortunately I work with the men, who cannot all happen in here at 11 o'clock. Even if they did, I could not handle more than one of them in the hour of good light. They like to get here about 4 o'clock, and then I have all kinds of difficulty in getting the light I want, and my lengths of exposure stretch out to eight and ten seconds, when it ought to be two and four.

TURN BACK THE HOURS.

"I needed something to help out my daylight, and I have found it in the Cooper-Hewitt lamp. At 11 o'clock I need no extra light. At 2 o'clock I turn on one tube and bring the quality of my light back to 11 o'clock. At 4 o'clock I turn on another tube and am again back to 11 o'clock, and at 6 o'clock I use the third tube and my light all night is equal to 11 o'clock a. m. light.

"With it I have to expose only the short time that I desire and by turning it off and on can control the amount of light with the same accuracy as I may my chemicals used later in developing my plates. For artistic

portrait work it is all that I can desire; it is ideal. It is so soft that it does not affect the expression of the face and yet so powerful actually that it is equal to daylight.

"I am enthusiastic about it and believe that nothing which has been discovered since the advent of the dry plate twenty-five years ago will so revolutionize photography, especially portrait photography, as will this light. It is an epoch maker.

"The ordinary electric light, incandescent, or arc, is apt to be unstable, and it is 'hard.' The flash light is too gross to be considered. The field of this new light is broad. It can be used to illuminate theaters because the tubes can be protected for transportation by being placed in boxes, and all you have to do is to attach the electric wires to have your lamps working.

"We have sufficient light in the flash lamp for all practical purposes in theatrical work, but heretofore we have not had a single light which would aid the artistic photographer. No one knows exactly what the exact property of the light is. I know that it has no red rays in it and that it reduces the image on the ground glass to a black and white, so that I can form beforehand an accurate judgment of the resultant monochrome. As the light is constant in quality and quantity it is a simple matter to standardize the exposure and to control that most difficult thing called 'texture.'

"In portraiture texture is as individual as form, and until now the most expert photographers have been able only to suggest variety in complexionable texture because of the changing light. If one uses the lamp alone without daylight there is possible the steady lighting of Rembrandt or the soft, mellow handling of Reynolds without destroying the characteristic pose, because the light and not the sitter is moved."

From this it will be evident that Mr. MacDonald uses the lamp only as an adjunct to his daylight, to set back the clock as it were, but the addition of any number of tubes or lamps is only a question of cost, one hardly to be considered where work of value is to be done. And the work that he is doing by its aid speaks for itself and makes it safe to prophesy that the time is not far distant when the Cooper-Hewitt lamp will be installed in every important studio.

The question of cost and efficiency naturally arises, and it may be said without dispute that, for the photographer, the Hewitt vapor lamp is the most efficient luminant known. The light being produced by the incandescence of vapor of mercury, and the vapor being enclosed in a vacuum, there is no consumption of the light-giving element and the lamp, unlike the arc, requires no attention or trimming. It runs with absolute steadiness and no noise or flicker. The current consumption is low. A 750 c. p. vapor lamp takes no more power than three 32 c. p. incandescent lamps. The cost of running, therefore, is about one-tenth of what would be required for an equal amount of light by ordinary incandescent lamps, or one-half of that required for the arc light.

Besides rendering the photographer independent of a skylight for his sittings, the Hewitt light can be advantageously used for the making of all kinds of prints. Old Sol, the photographers' ally, is therefore no longer a necessity. The studio may be located on the ground floor, in the darkest alley and the finished prints made irrespective of weather conditions.

HOME PORTRAITURE.

F. M. STEADMAN, Puebla, Mexico.

Address before the P. A. of A. Convention at Indianapolis, Ind.

In speaking on the subject of "Home Portraiture" I am tempted first to give you my opinion of portraiture as a whole.

I believe that the day will come when there will be no discrimination between portraiture of one kind and portraiture of another kind; that is to say, normal portraiture, so far as lighting the face and the preparation of the actinic conditions are concerned, is a matter governed by natural geometrical principles which when observed will produce a correct portrait so far as these elements are concerned. These are truths for the *artisan* to know and handle; the work of the *artist* is not now under consideration.

The question then is, not can good work be done at home, but does one know how to utilize home conditions so as to produce normal portraits?

Portraiture depends principally upon three specific natural conditions; these are, first, the radial expanse of the light source in relation to a certain point on the subject illuminated. The point on a plane surface which is held horizontal may be imagined to be illuminated by the complete dome of the sky, which dome may be geometrically represented by a half sphere placed down on to a plane surface over the point which is illuminated. This half sphere would intercept any ray of light coming from any point of the sky to shine upon a point under the sphere, and if one-half of this sphere be removed light from one-half of the sky can shine upon the point. If one-quarter of the sphere only be removed light may come from one-fourth of the expanse of the sky to shine upon that point; and so on.

Thus it is seen that the mental picture of a light source as it creates intensity at a certain point on a surface is the base of a cone of light rays, the point illuminated being the point of that cone. Then, in order to establish a unit for this character of radial space it is only necessary to decide on a certain fractional part of a complete sphere, which fractional part will become the base of a unit cone of rays.

An illuminated point on a plane surface is confronted by an amount of radial space equal to a half sphere; but as an illuminated point recedes within an opening the amount of radial space is gradually lessened, and at any certain point within that opening the opening, considered always as the base of this light cone, will always have an exact radial value expressible in simple units of radial space.

So far as the concentration of light is concerned, the photographer cannot do better than read "Artistic Lighting," by James Inglis, which teaches us the value of a concentrated light source and opposed to the common method of working under the ordinary skylight, in which the base of the illumination falling as it does on a face from so many different directions that there is created no simple design of light and shade upon the face. These conditions tend to produce flatness instead of modulation on the features.

The second element in normal portraiture is the position of the head in relation to this concentrated source of light. To easily determine the position which is approximately correct turn the face first directly towards the source of light so that both sides of the nose are illuminated by that source. Then gradually turn the face away till one side of the nose is thrown into shadow. Near to that point is the condition of lighting which is used in 90 per cent. of all the portraits which are made for the sake of the likeness principally, whether painted or made by photography.

The third element in normal portraiture is the condition of contrast which exists on the subject. This contrast must be modified by reflectors, being careful that the reflector be not dropped below the altitude of the face in order that this secondary reflected light may fall slightly from above, for the same reason that the direct light should come from above, simply that the true modulation may result.

Now, a practical word with reference to degrees of capacity. I would like to ask any photographer present what percentage of the light of the sky a clear

glass in a common window takes away from it; that is, suppose a face to be lighted through a simple opening without glass, and then that a common window glass be placed over that opening, what percentage of the actinism of the sky is taken away by the glass as in the second condition? (The lecturer waited a moment for response from the audience, but no reply came to him.) I hear no response; and that brings out a point I wish to make, viz., that you have perhaps never investigated, and therefore do not know how to answer this query. We, as professional photographers, should be prepared to answer such a question; and if we do not know what percentage of the light of the sky is taken away by our skylights, it is high time that we should take steps to determine this and all such questions which pertain to photographic practice in this regard. During the few days of this convention I have had in private conversation the opinions of several of our members on this subject, that from 5 to 15 per cent. of the actinism was taken away by the intervention of the clear glass of an ordinary window. The truth is, that we may tint a piece of printing out paper on the inside sill of a window for ten seconds, when the window is removed; whereas, if we lower the sash to its place and make the exposure, we will find that thirty seconds will be required to produce the same tint. Then if the light works with one-third of the rapidity, it is clear that two-thirds of its actinic power has been removed.

To measure in like manner the opacity of any skylight, simply tint a piece of p.o.p. paper a certain number of seconds outside of the skylight and facing the pure sky. Then immediately under the skylight and close up to it expose another piece long enough to produce the same tint. Ten seconds taken as the numerator and the number of seconds required to produce the same tint under the skylight taken as the denominator will form the fraction representing the actinic value of the skylight as compared to the pure sky as a unit.

Thus, if sixty seconds were required to produce the desired tint under the skylight that light would have 10-60, or one-sixth the value of the pure sky; that is to say, five-sixths of the value of the pure sky is removed by the material which composes your skylight.

It is evident, therefore, that if we substitute pure skylight for the gallery condition we have increased to a wonderful extent the working power of our light source. The long established custom of working under a skylight makes it inevitable that a man should be surprised upon seeing such work done by a common window, since he never has realized how slow is the action of his gallery light in reality. From this we see that the extra force to be obtained from pure sky increases greatly the value on an illuminated face, and renders home portraiture thoroughly practical, so far as the time of exposure is concerned.

With the ordinary rapid rectilinear lens used at its full opening the normal exposure is frequently as little as one-fourth of a second, and seldom more than one second.

The tendency of the times among our best workers is to master all the intricacies of process, to the end that the mind may be perfectly free to approach the individuality of the subject and obtain a likeness which will properly present it. Many of our advanced workers have already eliminated the old style of top and side skylight. Pirie McDonald is working with two common windows side by side in an ordinary room. Hollinger uses a side light only, but somewhat larger.

Actinism as an exact value, while it is the basis of photographic practice, is a thing to be known and measured by the artisan, and is entirely apart as an *exact value* from the work of the artist. This is the reason that it must be known so thoroughly that the mind will use it automatically, for only when this can be done is the artist free to follow his own intuitions so far as the handling of the subject is concerned. The inch is necessary to architecture, but is not a factor in the artistic education of an architect; in like manner I make no claim that the unification of the photographic values will make an artist, although it is absolutely necessary to the worker as an artisan that such values be established. The best painters of the world lived before the fact of actinism was discovered; and in a finished product, whether photographic or from the brush of the painter, it is not necessary that actinism should have entered as a factor into its construction. It is a fact, however, that a system of study

for the comprehension of the light effects in nature by the mind may be based on the law of actinism, which law may bring the mind to an ever increasing capacity to perceive and enjoy the varied operation of this law in nature.

The study of actinism, therefore, will sharpen the perception of both the painter and the photographer; but aside from this fact it is absolutely essential to the photographic worker as an artisan. The whole process of photography is a process of elimination of small difficulties; the beginner will fail in the simple act of focusing or locating the image.

Let us now come to the practical reasons why the professional photographer should learn to do home portraiture. A few years ago in Houston Texas, my partner and I found a man taking medium sized portraits on Aristo platino paper at 35 cents per dozen, and he was practically without work even at that price, and was sitting in his chair doing nothing. Several other photographers in the same place were in like plight. We decided to take our kodak to other parts, and went down an old historic railroad, the Columbia Tap, to the village of Columbia, and found that no photographer had visited those parts within the last fifteen years. We did a good business, and then went further south on the Brazos River to another village which we worked with success; then continued to the mouth of the river to Velasco City, and at that point were very successful. This illustrates the condition which prevails in many places; and when one is free from the idea that a skylight is necessary to do good work he is at the same time free to go into any part of any adjoining village and successfully pursue his occupation. Furthermore, the exercise obtained in traveling from house to house, which may be done on foot or with a bicycle, and which may extend through the country if desired, is no small element of satisfaction in the general result.

The cost of equipment for this kind of work is ridiculously small compared to the income to be derived from an intelligent use of the materials. Furthermore, it is desirable that the professional photographer should learn to do home portrait work before the amateur has entirely wrested this field from him, and in order that he may reap the

benefits to be derived from the work itself, and from the instruction of the amateur which the professional should always be able and willing to give as a matter of business.

The wider the dissemination of knowledge respecting the manipulating of photographic apparatus, and the more general is the love of photography as an art among the people, the more will the work of the true professional be valued at its proper rating; and thus it is seen that photography is by no means going to be undervalued or depreciated by the extension of home portraiture, but rather greater interest stimulated and aroused, so that the art will be dignified and the profession accorded a greater measure of remuneration for skillful and artistic work.

Much has been said by the resident professional photographer in condemnation of the "transient" worker, and the latter usually has deserved severe criticism for his price cutting methods of competition. But it is well known that some of the most bitter "price wars" have been between resident professionals, and the question is in truth one of the business methods, ability and manhood, and not whether a man is established or transient. In our own practice we never have charged less than the best photographers in the place visited, except when first practicing this method of working in Omaha, Neb. On the contrary, for the last six years we have charged more than the best photographers, and at the present time at least double his prices. They are usually our friends, and have many times been glad of our visit, as we have illustrated to their citizens that photographs should be well paid for. Our own standing as photographers has risen in proportion as we have been able to eliminate the anchorage of gallery methods and increase the quality of work.

It is manhood, ability and character that will make us respected, and the man who fears to lose his dignity by going into a home to take a portrait already must hold that dignity in a trembling hand. The doctor suffers no reproach by going to the home.

Again, by taking note it may be seen that of all the subjects which belong naturally to portraiture, a large percentage is brought to the gallery with the greatest inconvenience. It requires

an actor to appear natural at a studio sitting, or else a strong and tactful man at the camera. Procrastination on the part of those who really desire portraits often keeps them away from the gallery for years. They could be caught at home with a ten minute sitting. The ball dress, the baby, and the invalid suggest to us reasons for home portraiture.

The professional also should make it known that he will finish the work of the amateur for a stated price. The item of retouching alone, when the practice of portraiture shall be common among amateurs, will be no small source of income to the professional photographer. If photographic practice among amateurs could be multiplied by ten, and the professional photographer could secure half of this work to finish, he would reap a net profit in which there would not enter any element of time consumed in receiving and waiting on sitters, posing, or playing monkey with the baby.

When photography was discovered it was thought that the painter would be the first to utilize it in his labors; but the painters soon found that the law of nature which impressed the sensitive film was something of which he, as well as the rest of the world at large, was entirely ignorant, and which could only be learned by a long and tedious process of experimental practice. For this he had neither aptitude nor intention, and so the employment of photography as an assistant in the painter's studio was by many painters derided. Furthermore, even up to the present time the practice of photography has necessitated certain fixed conveniences, it being understood that the sitter must come to the operator, and that the skylight was established as a commercial necessity.

Up to the present date we have thought that experience was the only door to photographic practice; this is true simply because we have not dealt with the natural force of actinism as we have dealt with other natural forces, not having given it a simple unit and scale of measurement. Photographers have "guessed" long enough, and should begin to follow some exact and definite method of procedure. This by no means will strike a blow at art, which is always the handmaid of truth. No photographer can approach nature

closely until he can go away from his skylight and work with perfect confidence in his knowledge of the values with which he deals, measuring them as simply and quickly as he would values of weight or volume. The theory of existing exposure meters is that certain paper which discolors under actinic action shall reach a standard tint as indicated by a painted slip to which it is compared. Difficulty, however, is frequently met by the color not passing exactly the standard color to which it should be compared. All this difficulty may be avoided by adopting some system of measurement, viz., that any ordinary p.o.p. should be discolored in the light to that point where it may be just plainly distinguished from the original color of the paper. This method places in the hands of every photographic worker the means of making simple measurements from day to day, as the slips of paper may be carried in an ordinary notebook and tinted through a small hole cut in the cover of the book.

I know that there are many old photographers who would feel, perhaps, humiliated at the bare suggestion that they require a system of more accurate measurement of light values; but who ever heard of carpenter, or even an architect, being humiliated because he was daily dependent upon a rule?

In making this tint referred to the paper should be held behind the cover of the book and at the point where the face is to be located, and turned directly toward the source of light. The paper should be exposed until the tint produced through the hole in the cover is *just plainly distinguishable* from the original color of the paper. The number of seconds required to produce that time is the normal exposure in photographing the face in that position provided diaphragm No. 16 be used in the lens, and any ordinary emulsion be employed as supplied us for use with any of the modern platen or films. If a certain emulsion be found to be overtimed by this diaphragm No. 16, diaphragm No. 32 may be used with that emulsion, giving the exposure indicated by the paper test. The lens should be carried about with the diaphragm always at the proper opening for the emulsion used. Then if a larger diaphragm is desired to be used in making the exposure for each number

that it is opened the exposure is reduced one-half; or for each number that it is closed the exposure is increased by two.

In actual practice no light is too strong to illuminate a face, so long as it does not inconvenience the eyes and thereby unfavorably effect the expression.

[Duty rather than inclination induces us to reproduce this paper, as there is much of it beyond our comprehension, and some of it palpably absurd. The statement that the glass in a window of an ordinary studio absorbs two-thirds of the light that falls on it, or transmits only one-third thereof, is too absurd to be allowed to appear in our columns without protest.—EDS.]

THE PRACTICAL VALUE OF COSTLY LENSES.

By CHAPMAN JONES, F. I. C., F. C. S.

It is natural to suppose that, of two articles adapted for the same purpose, the more costly one is the better. Generally speaking, no doubt this is true, but the user of a piece of apparatus for specific purposes should not be guided only by generalities. The question for each of us is whether the more costly apparatus is worth its cost for the purposes for which we require it.

Looking at lenses from the purely practical side, the modern instruments are better than their predecessors in that they do equally good work in less time. They may be used with a larger aperture, and the period of exposure is inversely proportional to the aperture. The question is, whether the shortening of the exposure is worth what it costs, whether indeed it is worth anything.

The trade photographer can easily answer this question, and I suppose always in the affirmative if he is a busy man, for the shortening of exposures means more work done with the same outlay for plant and accommodation, and the same wages; and a notable gain that constantly recurs must be worth a great deal.

But the question that concerns us chiefly is the case of the amateur, to whom presumably the time occupied in his work is of comparatively little consequence, that is, he would willingly give longer exposures if better results were thereby to be secured. The matter of time, within large limits, is nothing to him except as it affects his subjects.

The image-forming apparatus in use at the present time by the amateur includes a wider range of quality than

ever before. The simple pinhole gives an image that is sometimes useful, and a lens in conjunction with the larger sizes will give a sharp image. In such a case the lens may be a mere spectacle lens, for the pencils of light are already so narrow, that by bringing them to only an approximate focus gives good definition, for the most out-of-focus light can be so little out of focus that the difference between it and the best focused light is negligible. The most perfectly corrected lens would not perform better than an uncorrected lens under such circumstances. But as the angular aperture increases so the need for correction of the lens aberrations becomes greater, and this not only or chiefly those that affect the middle of the field, but particularly those that determine the definition at its margins. For an old-fashioned single, "rectilinear," or portrait lens will give definition over a proportionately small field that is not excelled, indeed, sometimes not equalled, by the best of modern objectives.

If, therefore, one is prepared to reduce the aperture sufficiently as the required field is extended, or to reduce the field as the aperture is enlarged, the advantages of modern anastigmats disappear in ordinary photography. It is not easy to give definite figures, especially when referring to lenses in classes rather than to specific types, but these facts may be illustrated by saying that if one is content to use an aperture of about $F/32$ for a lens of focal length about equal to the longer side of the smaller plates of ordinary shapes, and to employ a plate of about half this length in the side when the aperture is $F/6$, little if any improve-

ment may be expected when comparing anastigmats with the lenses that were in common use before their introduction. It must be understood that these figures are intended only to give a rough idea of the facts, and may not be (though in some cases they are, for even costly modern lenses vary a good deal in quality) applicable to those cases where critical definition is required, as in copying drawings in line.

If, therefore, the photographer is accustomed to keep his relationship of aperture to field within something like the limits indicated, and has no wish to alter his habits, or knows that his subjects will not allow of it—for when much depth of definition is required this will restrict the aperture whatever the capabilities of the lens—then, speaking generally, the older lenses will serve his purpose as well as the more modern. I have known a case where a far more valuable and really superior lens was condemned as inferior to one of an older type, because the subject was such that neither the special qualities of the one nor the faults of the other were demonstrable. Indeed, one of the faults of the cheaper instrument, curvature of field, was a positive gain in the experiment chosen.

But I suppose that very few of us care to suffer more limitations than are necessary, and it is on this account that we increase the variety of our instruments. In selecting lenses, the rule is that, for a given size of plate, the greater the focal length and the smaller the aperture the less need is there for optical perfection. Passing in this direction there is a stage at which the older lenses are as serviceable as anastigmats, and there is a further stage at which spectacle lenses are as good as achromatic combinations. Increase in focal length and

reduction of aperture mean longer exposures, therefore, it is particularly when the period of exposure must be restricted because of possible movement of the subject, or because of the extreme darkness, of it, as in some interiors, that modern lenses are advantageous. Those who prefer small view angles, as sometimes in pictorial work, architectural details, and the like, may be even better served by lenses of the older types, because their maximum field is smaller, and there is thus less useless light entering the camera.

These considerations apply to objectives as they stand, but many unsymmetrical doublets will furnish two extra focal lengths, according as one or the other combination is used separately. The Cooke "extension" lens, for a small cost, provides a very useful increase of focal length. Such alternative arrangements are generally similar to the older lenses so far as their performance is concerned. Taking these possible variations into account, as of course they should be, a modern lens may be found to be even cheaper than its equivalent of two or three lenses of the older types, and also to give the advantage of a larger available aperture when the shortest focal length is employed. It may be noted that the maximum aperture is not always available, and that a slower lens, according to the maker's list, may prove far more rapid in use. If, for example, an F-6 lens has to be stopped down to F-22 in any given case to get definition over the plate, while an F-11 lens suffices without any reduction of its aperture, the first lens, though nominally nearly four times as rapid as the other, is really only one-fourth as rapid in that particular case. And this is not an unduly exaggerated example.—*The Amateur Photographer*.

PORTRAIT LIGHTING.

Lecture and Demonstration Given by Felix Rayner, Illinois College of Photography, Effingham Illinois, Before the New England Convention of Photographers, Boston, Mass., August, 19, 20 and 21, 1903.

Mr. President, Ladies and Gentlemen: It is my pleasure to come before you to-day, not as one knowing it all, for as I grow older, I realize, how little I do know, but as one trying to

aid some struggling brother craftsman, who perhaps has had an up-hill journey and will appreciate even the smallest suggestion made for his benefit. I am fully cognizant of the fact

that there are many among you that are already as well posted in the various departments of our profession as your humble servant. On the other hand, after having examined the exhibits shown on your walls, I am equally sure that there are some among your number that could well afford to listen to all the suggestions made during this convention, and on going home let it be their endeavor to apply a few of them in their every-day work, and it is to this class that I expect to address my remarks.

It has been my observation, in traveling about the country for the past few years attending the different conventions, that one of the great troubles with the average worker is that he has not the fundamental principles of lighting thoroughly grounded in his professional education. By this I mean that many of our workers can once in a while secure a good result, but the very next attempt may be a flat failure, and many times the failures are in the majority by ten to one, or even more. Now this can only be accounted for by the operator not knowing just what he wants, or not knowing how to get what he does want. I believe the former supposition predominates.

What is portrait lighting? It is that which shows character, roundness, a likeness, action, expression, vigor, softness, mellow half tones, all arranged by the operator in such a way that we pronounce him an artist. These requisites are just as essential in a correctly lighted portrait as the obeying of all the commandments. If we are guilty of losing one, we lose the whole. They are secured by the arrangement and management of our light, and just here is where I think operators differ so many times, and in fact I think it is a greater difference than any I know of. One says I cannot get that light to produce good results, or that is a poor light, and so on. But in my opinion it is not the light that is at fault, for that is only a hole cut in the side of the house, varying in size according to the size of the owners' pocketbook, or ability to secure a smaller or larger opening. I think the trouble comes through the way this light or opening has been curtained. Now, one might say, "I

haven't my light curtained at all." That may be your trouble; you should have it curtained. It is here that demonstrators experience their greatest trouble from the fact that the light they may be using at the time is curtained on an altogether different plan from that which they are in the habit of working. This being so it will require a little consideration on their part to secure just the effect they want, owing to the fact that they must first learn the manner in which the direction of light is controlled. Now you want to know what is that direction, and my answer is, that it is the direction that will secure character, roundness, a likeness, action, expression, vigor, softness, and mellow half-tones, all blended into one grand whole. Personally, I have found that it matters not whether we use a small or large source of light, except in so far as the exposure of the plate is concerned, provided we have the light falling on the subject at the right angle, or from the right direction. Now, the next question is what angle will produce the right direction. To elucidate. Suppose we manage to close up all of our light except a very small opening, say about two feet square, directly over our subject's head, permitting the light to fall straight from above, and down on the subject. This light would be falling at an angle of 90 degrees and would give us a harsh, hard negative, lacking in expression, from the fact that the eyes would be in heavy shadow, and there would be heavy shadows under the nose and chin. Now we have lost softness, expression, roundness, and good half-tones by this mode of lighting, and further have added several years to the appearance of our subject by giving such an emaciated look to the face. On the other hand suppose we close off all the light except a source of about two feet square directly at the side of the subject. This will strike the subject at an angle of 90 degrees from the side, which is the same degree, but will produce an entirely different effect. It will give one side of the face strongly illuminated, while the other will be in strong shadow and lacking in detail, which means harsh lighting again and a lack of gradations, or half tones. So we see that neither source will answer our purpose. Therefore we must

modify each, and take the good points from both and drop out the bad points. We will cut down on the top light just enough to avoid the heavy shadows in the eyes, and at the same time cut out enough of the side light to do away with the sameness in the lighting on the light side of the face. After doing this we find our light is falling neither from the side nor top, but midway between the two, or at an angle of 45 degrees. There are other things that make this angle of light better for making portrait work, one of which I will mention here that is of the utmost importance in my opinion, and is really the chief reason for my advocating this idea.

It is well known to all that use their eyes to see, that in every face there are two classes of lines or wrinkles, as most people call them. There are the horizontal lines running across the forehead, and the "crow's feet" running horizontally away from the eyes. There are also the perpendicular lines or wrinkles, such as those running downward at the root of the nose between the brows and the deep furrow or character line running from the nose down to the corner of the mouth. If we were to use our light so that it all fell on the subject, from the top, or at an angle of 90 degrees, it can be seen that the light would fall across the horizontal lines, or those running across the forehead, and make them appear deeper than they are in nature, thus adding to the age of the person. At the same time the lines running perpendicularly through the face would be filled with light and obliterated perhaps, which we know would not be right. Our idea should be to modify these lines, but not obliterate them.

Again, if we should use the light falling straight from the side on the subject it would fall across the perpendicular lines and exaggerate them, and would fill the horizontal lines with light, obliterating them. So we see from these remarks that neither source of light would be best for our work. That which we should do would be to use our light so that we secure the best effects, and these effects have been more pleasing to my mind when both classes of lines in the face have been preserved, but modified.

We operators have for a number of

years surrounded ourselves with a great air of mystery, and said if one wanted to become a good operator it had to be born in him, and I believe yet that one must have a taste for the work, but I have two propositions to lay before you to-day, and these two propositions comprise but two moves in the operating room. They are these: First, the distance from the light to the subject will regulate the direction the light takes in falling on the subject, whether it be at an angle of 45 degrees or not. The farther away from the light the subject is posed, the lower down on the side the light falls. The closer to the light the subject is moved the higher the light falls, until it will at last become all top light. Now for the second move. The distance from the end of the light toward the center of the light regulates the effect of the lighting, whether it be a soft or a strong lighting. The nearer one end of the light the subject is placed the softer the effect. The farther under the center of the light the stronger the effect.

In portrait work we should make it our aim to have certain parts brought prominently to our notice in the picture, while there should be certain other parts that should be subordinated. I will mention and demonstrate one instance. The ear and outline of the head on the light side of the figure should not be so strongly lighted as the more central parts of the face. If they are the attention will be distracted from that which is of more importance to that of lesser importance. Therefore we must use a screen for screening the ear locally, some small hand screen answering nicely. But in using it do so in such a way that the finished print does not show that it was necessary to use it. The idea should be to get the effect of the screen without showing that it was used. It is just here where we operators are many times criticised and justly so by our artist friends. It is too often the case, where it is necessary for us to do some "faking," as it is called, that we show too plainly that "faking" was done. In other words, we overdid it to such an extent that it was apparent in the finished picture. Adhere to nature, and I cannot conceive of a face lighted in such a way that on the light side there would be a great broad

"smudge" of black extending from the temple down to the chin. (Applause.) Shadow is just as important in the lighting of a face as light, but it must be carefully used, and at all times should be transparent, showing the flesh tints or tone values through it.

I am often asked if I believe in using a reflector on the shadow side of the face. I do, most emphatically, if I need it. There are times when the use of reflected light would spoil the lighting on the face. But there are other times when it is a positive necessity. In using the reflector it should be done as though it was a continuation of the skylight, allowing it to begin affecting the face at the point where the direct light leaves off, and continue the lighting around the entire head in one even blending, getting less in its effect as it continues toward the back of the head. There should never be a time when there is a shadowy line formed between the direct light and the reflected light, for if such is the case, it will cause unlimited amount of retouching to join the two sources of light in one even blending. The lighting must be balanced, that is the shadows must be blended into the high-lights showing gradations and mellow half tones running from the highest light down to the deepest shadow, and if it is necessary to use a reflector to secure this result, by all means use the reflector.

When such a lighting has been secured, under the light, it is a much easier matter to develop the negative. I have heard certain demonstrators claim that their plate will stand more abuse, or in other words carelessness, than any other plate, and for that reason one does not have to be so careful in getting the lighting rightly balanced. This to my mind is the lowest class of claim to be made for any brand of goods, and I for one will never use the goods of one appealing to the careless side of a man's nature. "What is worth doing at all is worth doing well." Therefore have your light balanced as well as is within your power.

In developing such a lighting as we have demonstrated and described, have it divided in your mind's eye into at least three ranges of high lights. Let them be known as Numbers 1, 2 and 3. Number 1 being the highest, Number 2 next and Number 3 the lowest. De-

velop the negative until high light No. 1 has gone down through the emulsion and rests on the glass. There you stop developing, for to carry it further would only carry high light No. 2 down to the glass, and then you would have but high lights of varying strength, and if you were to take high light No. 3 down to the glass you would have but one high light, from the fact that all high lights were resting on the glass and of the same intensity. It is not possible by prolonged development to send high light No. 1 through the glass, so don't try it. All you will accomplish will be to cause halation of the high lights, running one into the other and spreading them along the glass until all are of the same density. It is this spreading of the high lights that causes halation when we photograph a room facing toward a window. Owing to our being unable to balance the shadows with the window, we must prolong development until we secure detail in the shadows, and in doing so spread the light from the window along the glass forming halation. Were we to stop developing as soon as the high light from the window struck the glass we would not have halation, but owing, as I said before, to the fact of our being unable to balance the shadows with the light, we must develop until detail is secured in them, hence the halation. It is for just this reason that we have double-coated plates. The first coating is a slow emulsion, the next a faster, when development is taking place. The high light from the window passes down through the fast emulsion and is caught in the slow one until the shadows have a chance to get through the fast emulsion. Thus it will be seen that the highest light being caught in the slow emulsion, and not being permitted to spread along the glass, will avoid halation. (Applause.) It is the same with your ordinary plate. Prevent the spreading of high lights along the glass and you will secure the gradations of light as you saw them under the light. But be certain you have your light balanced and you will experience no trouble in developing as I have directed.

Your first trial of the method I mention may result in prints with "smutty" shadows. If this is so, do not develop further, but reduce the amount

of sulphite of soda in your developer, and thus secure more yellow in the negative which will preserve the high lights and shadows without clogging them up. The quality of your negative has more to do with the getting of brilliant prints than the overdeveloping of it. The finer the grain of the negative the more brilliant the print, from the fact that it only allows light to pass through those parts that are intended to pass light. To illustrate. Suppose we have a large sieve in which we place a layer of stones the size of one's fist. Now place a large light under this sieve and look through it toward the light. We can see considerable light passing between the stones. Remove the stones, and place a layer of gravel the size of a cherry. Look through. There is less light passes the gravel than the stones. Now replace the gravel with a layer of sand and look through. There is no light passes the sand. So it should be with your negative in a measure. Control the amount of light passing through

the high lights, we will say, by the quality of it.

I was once told by an operator friend that the method I use in developing would not work for him. I asked why. He said, "the negatives were too thin." I asked why he did not reduce the sulphite of soda as I directed. He said, "Oh, I forgot that." Now, don't any of you forget it, for it all rests on that one thing.

I will give you the formula I use for my work, and any that may wish can give it a trial.

No. 1, carbonate pottass, to test 40.

No. 2 sulphite soda, test 70.

No. 3, water, 24 ozs.

Oxalic acid, 15 grs.

Pyro, 1 oz.

To develop, take 1 oz each to 8 oz. water.

In winter use carbonate pottass for No. 1, but in the summer I use carbonate soda.

If more color is wanted in the negative reduce the test of No. 2 until desired result is secured.

PHOTOGRAPHIC PORTRAITURE—A PLEA FOR LONGER EXPOSURES.

By WALTER SCUTT.

Charles Kingsley, in "Two Years Ago," written about fifty years since, when daguerreotypy was in common use, puts the following words into the mouth of one of his characters, Claude Mellot, an artist, who says, with reference to photographic portraiture: "It tries to represent as still what never yet was still for the thousandth part of a second; that is, the human face, as seen by a spectator who is perfectly still, which no man ever yet was. My dear fellow, don't you see that what some painters call idealizing a portrait is, if it be wisely done, really painting for you the face which you see and know and love; her ever-shifting features, with expression varying more rapidly than the gleam of the diamond on her finger; features which you, in your turn, are looking at with ever-shifting eyes; while, perhaps, if it is a face which you love and have lingered over, a dozen other expressions equally belonging to it are hanging in

your memory, and blending themselves with the actual picture on your retina, till every little angle is somewhat rounded, every little wrinkle is somewhat softened, every little shade somewhat blended with the surrounding light, so that the sum total of what you see, and are intended by heaven to see, is something far softer, lovelier—younger, perhaps, thank heaven, than it would look if your head was screwed down in a vice, to look with one eye at her head screwed down in a vice also—though even that, thanks to the muscles of the eye, would not produce the required ugliness; and the only possible method of fulfilling the pre-Raphaelite ideal would be to set a petrified Cyclops to paint his petrified brother."

I have never read anything which more clearly sets forth the faults, at the same time pointing a way to the improvement, of the great majority of photographic portraits; and, though

written so long ago, the quotation seems so worthy of careful consideration that I am induced to use it as a sort of text for this short article, though nothing I can say will approach Kingsley's words in value.

The "pre-Raphaelite ideal" of carefully representing with irritating sharpness every trifling detail of a subject, whether important or otherwise, is based upon a misconception, and is contrary to physiological truth. The human eye is normally never still, and can only be kept still by a conscious and painful effort; consequently, when looking at a picture or a scene, there is only one small portion of it sharply focused upon the retina at any particular moment, and the full details can only be observed by allowing the eye to rove restlessly from one point to another, which is in ordinary cases an unconscious action. The result is that only one small portion of the view is sharply defined at the first *coup d'oeil* and this portion of the picture should be the predominant point or principal object.

The same thing is true with regard to a portrait, but in this case an additional factor comes in; not only is the spectator's eye constantly moving, but the features of the sitter are also, under natural conditions, continually varying their expression, with the effect so admirably described by Kingsley.

When these circumstances are fully considered, is it any wonder that the usual photographic portrait appears as though one had "set a petrified Cyclops to paint his petrified brother?" The sitter composes himself into a rigid fixity of expression by representing the natural variations of the features; the camera Cyclops fixes its vitreous eye with merciless, all-defining stare; the snap-shutter makes its instantaneous wink, the plate records its momentary impression; and the man behind the camera fondly hopes to secure a portrait. How is it possible under these conditions?

It is well to remember what the old masters aimed at in painting a portrait, namely, "to give the sum total of the whole character; traces of every emotion, if it were possible, and glances of every expression which have passed over it since it was born into the world. They are all here, the

whole past and future of the man; and every man, as the Mohammedans say, carries his destiny on his forehead."

The best photographic portraits ever produced are, in my opinion, those by David Octavius Hill, R. S. A.,* (1802-1870), made in the early forties from Calotype negatives, with a lens that did not define too sharply, and an exposure of about four *minutes* in bright sunshine. During an exposure of such length the features must necessarily vary in expression, and the resulting portrait is consequently a combination of *several* expressions instead of a fraction of *one*. In this way Hill produced during two years, 1843 and 1844, a series of portraits which have "a truth, breadth, and power about them which we find in only the highest walks of art, and not often even in them," as Hugh Miller wrote about sixty years ago.

I do not mean to suggest that the high qualities of these portraits are entirely due to a long exposure, for I do not forget what Mr. Corder says of "the magnificent posing, the appearance of natural ease, which characterize most of Hill's work," and, again, "his arrangement of the light and dark patches is also very beautiful, and only those who have essayed photographic portraiture can fully appreciate that the apparently accidental and unintentional distribution of the high lights and shadows has all been carefully and deliberately planned." But I do think that the long exposure is largely responsible for the convincing naturalness of expression so remarkable in many of these portraits; and I therefore suggest to photographers in these days of lightning speed that they should make some experiments in portraiture with exposures of from a half to one or even two minutes, using orthochromatic plates and light filters for the double purpose of obtaining a better translation of color into monochrome, and of lengthening the exposure. With such exposures, and the sitter at his ease,

*"A commission to paint a huge canvas of Doctor Chalmers and his 470 brethren leaving the Church of Scotland at the 'Disruption' in 1843, drove Hill to take up the entirely new art of calotype, so as to get his studies for his crowded picture.—probably the first, but certainly not the last time that photography has been called in to help an artist in a tight place."—WALTER S. CORDER, *The Amateur Photographer*.

the features will naturally vary in expression, and, if the photographer, by conversation or otherwise, has managed to put his sitter into the right frame of mind, the result will probably be very different from the soulless image so often passing for a portrait.

These long exposures will also permit the use of what is often a great help in the attempt to get "every little angle somewhat rounded, every little wrinkle somewhat softened, etc.," namely, a single uncorrected lens. Such a lens used with discretion, and with the necessary allowance when focusing, for the difference between the chemical and visual focus, will give very beautiful results possessing a roundness and softness very much preferable to the "map-of-a-face" effect

so often given by the highly corrected lenses of the present day.

Woolliness, fuzziness, and blur to the extent of destroying modelling and structure one does not for a moment advocate; but it is too often forgotten that the human eye at its best is but an imperfect optical instrument, and that a portrait (or anything else, for that matter) as projected by certain modern lenses is defined in a manner such as no unaided human eye ever saw or will see.

In a portrait, he who "insists on the needless to the detriment of the essential" will surely produce a result stamped with the cold and dead reality of the photograph, instead of alive with the very spirit of the subject portrayed.—*The Amateur Photographer*.

ABREAST OF THE TIMES.

Are you interested in innovations, and do you desire to keep abreast of the times? If so, I will take the liberty to acquaint you with a few facts.

Most all the amateurs do not remember, or even do not know of the old Albumen days, accompanied by difficulties and disappointments, when the photographer was compelled to get up before sunrise to silver and fume his paper for a day's good work. If it clouded up and rained, there was time, patience and money lost.

What a boon to the photographer was the advent of the ready-prepared P. O.P.

Still, in those days there were people in ruts the same as at the present time, who could not immediately see the advantage of this paper, or were skeptical, with the result that they lagged behind those who at once realized its advantages.

History is repeating itself, for the lag-behinds in a rut do not realize the advantages of the newer wash chloride developing papers. These papers are now on the market with the principal objection overcome, viz., and even coating of emulsion and uniformity of speed.

How this paper simplifies things! You do not have to depend upon old Sol. Three hundred prints can be obtained (by hand) in a day, although 3,000 can be printed by the new McIntire Photo Printer. Enormous amount

of time saved, and last, but not least, no gold or platinum used.

Most all the papers on the market today are very good, but what surprises me is that so little attention is given to the developer. It seems that those who are using these papers are satisfied with the old stand-by "Metol-Hydroquinone" not realizing that more brilliant results than they are getting can be obtained with these papers.

I have tested these papers with every developer on the market and find that with Amidol, and used with my own formula, results are obtained as with no other formula or developer I make up a stock solution of

Water.....40 oz.

Sodium Sulphite Cryst..... 2 oz.

For use

Above stock solution.....10 oz.

Amidol, dry 40 grains

10 per cent. Sol. Bromide...5 to 10 drops

If I have not my weights handy, I use a fairly new 10-cent piece to weigh my Amidol. This gives me exactly 38 grains.

Forty grains of Amidol will produce a blue-black. This can be modified to a gray-black by using less Amidol. I sometimes use Bromide Papers for contact printing and find the Amidol gives me the same rich brilliant effects, but I take only 30 grains to the above formula.
H. C. A.

OUR PORTFOLIO.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination should be sent to Dr. John Nicol, Tioga Centre, N. Y.

1652. H. W. D.—“The Last Snow,” while considerably better than your last, is still very false in its values, although the fall over the dam, presumably the same as in the last, is very much better. As a picture, however, it was hardly worth the photographing, there being no *motif* or any one object of more importance than another, and no suggestion of more than is seen. In short, it is a fairly good photograph of a subject that, from this point of view at least, we should not have thought worth a plate.

1653. JOHN W. WOODWARD.—“Woods in April” is excellent as an example of “straight photography” or “record of fact” without any effort at the pictorial, although with a little thought and slight modification it might have been a picture as well as a record. The foreground is hardly of sufficient interest to have been made so large, and with a larger stop and suitable focusing you might have secured a suggestion of the essential atmosphere, which is altogether wanting, the extreme distance being as clear and well defined as the near objects. It is, however, as we have said, an excellent example of straight photography. Having so thoroughly mastered the technique of the art, you should now turn your attention to its pictorial possibilities. Learn to know the difference between a mere photograph as this is and the picture that it might have been.

1654. J. D. LUTZ.—The unnamed print is a good example of “the beauty of simplicity,” although that is nearly all we can say in its favor. A stream passing through a series of boulders, crossed apparently by a plank, and with several tree trunks rising from the the boulders, is, as represented at least, lacking in pictorial element or suggestion thereof. We think more might have been made of the subject. Something suggestive of life's troubles by the water forcing its way through the boulders, but the definition and lighting are such that even

that it is water is only arrived at by the exercise of the imagination. We congratulate you, however, on having secured a fairly near approach to that rarest of charms in a landscape, atmosphere, which beautifully shrouds the distance and redeems the photograph from failure.

1655. F. B. WILMOT.—Of the two unnamed prints we select for notice No 2, as it is, if anything, the better of the two, although what may be said of it applies almost equally to the other. It is a good selection, both as to subject and viewpoint, but sadly lacking in *motif* and interest, there being no object of special interest or of more importance than another. The photography is also at fault. Instead of lights and shades being massed and contrasted, there are, in the true sense, none of either, the whole print being of a monotonous gray, each square inch of which contains about the same quantity of half-lights and half-darks. Nor is there the faintest suggestion of atmosphere, the extreme distance being as clear and well defined as the immediate foreground. Then, all that there is in it is seen at a glance, and in this No. 1 has the advantage over No. 2. In the latter the path through the wood comes to an abrupt end against the rocks, while that in the former, by its winding is suggestive of something beyond. Aim at something less monotonous by massing and contrasting light and shade. Although it is not always easy to judge from a print, we are inclined to think that the negative of this has been over-exposed and the development not modified to counteract the over-exposure.

1656. George A. Holly.—“Obno Canal” from this point of view is a fine subject, not nearly well enough focused for such a small print, and the photography might have been, and should have been, better. Sky and water are exactly alike, unaltered paper; indeed, that it is water is only guessed at from the shadows, or,

rather, reflections of the trees on the right. The far too short exposure has made a too long development necessary. With sufficient exposure it would have been a pretty little picture.

1657. ARTHUR LEVINE.—“Boating on the Susquehanna” is one of the “might-have-beens” or “missed opportunities” that has a damping effect on the beholder. It is one of the many beautiful reaches on that beautiful river that, being within a few minutes of our home, we have admired hundreds of times, and every time with increasing delight. You have made an excellent selection and chosen probably the very best view point, the bend in the river offering matter for suggestion and giving the tree-clad bank as a fine background, leading the eye to the hill beyond with just an indication of the essential but elusive atmosphere between. The boat load of pleasure seekers is in just the right place, and the empty boats in the foreground give human interest and food for suggestion and satisfactorily balance the steepish bank on the right. Nature is here beautifully artistic, and you have shown the ability to see it, but alas! your reproduction of it is sadly at fault. “That would have been

a beautiful picture if it had not been so black,” was the observation of the first to whom we showed it, and she “hit the nail on the head.” Boats, banks, background, and indeed everything else that is not white is as black and without detail as if made by a brush charged with black, while the water, unless in the troughs of the wavelets, is simply unaltered white paper.

The fault is under exposure. Ten times what it had got would not have been too much, and, with suitable development, it would have been “one of the pictures of the year.” True, you would not have secured the good example of cloudland, but it could have been made on another plate and printed in, the sky line making an easy job. There are, of course, pictures made by the sky, the landscape being merely an accessory, but this is not one of them, the landscape being such as to dominate any sky.

Try again if you have the opportunity; the view is worth a day's journey to get, but expose long enough for the deepest shadow, and if you have any doubt as to what that should be, get a Wynne or Watkins exposure meter and give at least 25 per cent. longer than it indicates.

OUR TABLE.

FROM Taylor, Taylor & Hobson comes a copy of the “Cooke Booklet.” Its object, the authors claim, is “to explain just how Cooke lenses differ from others.” This is done in a very convincing manner by good argument, the simple statement of plain facts, and the use of several very pretty illustrations by well known workers. The booklet is sent free on request, and is well worth the trouble.

* * *

THE BAYER PRODUCTS.—Amateurs, as a rule, are the most enthusiastic devotees of photography, and it is to them that the manufacturers of new photo-chemicals appeal when they have anything new to introduce. Professionals begin to show an interest only when the chemicals have passed the experimental stage. Edinol, the new developer of the Bayer people, much to the surprise of everyone, has, how-

ever, been an exception to this rule. Its many advantages over other developing agents appealed to the professional immediately, and it has been adopted by some of the largest photographic firms in this country, who are using it exclusively for plates, paper and lantern slides, and who admit they are now obtaining better results than ever before. In order to further stimulate interest in Edinol, the manufacturers have recently introduced tablets, furnishing undoubtedly the most convenient form of developer. These tablets are entirely different from anything heretofore on the market; they keep well, dissolve very quickly, and furnish a developing solution that can be used for all purposes, plates, papers, and lantern slides. To place it within the reach of everybody, Edinol is put up in ¼ oz. and ½ oz. packages, which sell at 20 and 40 cents respectively, thus

enabling anyone to experiment with this developer at a small cost. Another interesting product which this firm has just brought out is Bayer's Ruby Varnish. This is something that fills a long-felt want, as will be seen from its many different uses. It is recommended for backing plates to prevent halation, and coating electric bulbs, dark room windows and dark room lamps to make them light proof. It can be used for blocking out negatives and many other things that will suggest themselves to the photographer. The fact that this progressive concern, with its unlimited resources in the way of technical knowledge and skill, has entered the photographic field, should convince every photographer that his beloved art is to receive the scientific attention it deserves, and should induce him to reciprocate by making impartial tests of the new products brought out by these manufacturers.

* * *

FLASHLIGHT photography is always in order, and we call the attention of our readers to the Aurora flash lamp, advertised in this issue by G. Gennert. The risk attending the use of flash compounds deters many from taking up this interesting branch of photography.



The Aurora lamp burns pure magnesium, however, and with this there is absolutely no possibility of explosion, only be careful that you purchase pure magnesium powder. This is the first practical lamp of the kind at a low price, and it should find willing purchasers.

* * *

THE Reflex Camera Co. send their 1903 catalogue of cameras and shutters containing thirteen reasons why the reflex camera and focal plane shutter should be the mainstay of everyone who aims at the quickest of quick work, and showing by about a dozen illustrations that the work is good as well as quick. In

addition to the illustrated description of the cameras and shutters the book contains some tables and valuable information as to the speed necessary to secure objects in motion and the sizes of objects at various distances with lenses of various focal lengths. Nor is the dryness usual in such catalogues altogether unrelieved, as amongst the testimonials in favor of the apparatus there is one photographer who designates himself as "Pioneer Rapid Instantaneous Photoist." We have seen "Artist," "Photo Artist," "Artistic Photographer," titles likely to do more harm than good to those who claimed them; but "Pioneer Rapid Instantaneous Photoist" is something new. The catalogue is to be got for the asking, and should be consulted by all who want to give full as well as quick exposures, and at the same time to see what they have got up to the snapping of the shutter.

* * *

THE PHOTO-MINIATURE for June deals with "Press Photography," a subject of interest to every amateur photographer who aims at making his hobby pay its way; and as it is written by one who has had large experience in that class of work, it goes without saying that the hints are simply invaluable; and while we cannot go so far as the author in dignifying "press photography" as a science, it differs from other phases of the art sufficiently to deserve a number of the little magazine all to itself.

But, well up in the matter as the author evidently is, he does not quite "know it all," as he tells us that a fifteen inch rectilinear can be bought for about fifteen dollars, and that most of the commercial so-called photographic pastes come away from its support as soon as dry." The man that would advertise good fifteen inch rectilinear lenses at fifteen dollars would do a roaring trade; and as for the three most persistently advertised pastes, Carter's, Higgins' and Eastman's, the statement does not apply. They stick too firmly for those who sometimes want to unmount a print.

Paradoxical as it may seem, the Photo-Miniature No. 51 is probably the least interesting and the most practically useful of all that have gone before, especially in the light of the fact that its careful study may lead to the making of as many hundreds or thousands of dollars as its cost in cents.



International Studio for Sept., 1903.

The opening article of *The International Studio* discusses the work of a learned Spanish painter, Ignacio Zuloaga, by Henri Frantz. There is a glamor about the Spanish School of Art which makes discussion of it peculiarly interesting, and from the numerous reproductions of Zuloaga's work, scattered through the article, we see clearly the force and life and originality which he has inherited from the forerunners in the same school, Volasquez, Zurbaran and Goya. Zuloaga himself springs from an ancient Hibernian stock, and the blood of his ancestors runs pure in his veins. He was born at Eiber in the rough Basque country, which seems to endow its children with all that is energetic and audacious. His father and grandfather both were professional craftsmen, one in metallic work, and the other as a damascener.

Another article deals with the work of Mr. G. F. Watts, found amongst the portraiture hanging upon the walls of Holland House. This work shows Watts' early portrait painting, particularly of the famous foreigners who were driven to England from the Continent in the mid-century troublous times.

Lawrence Binyon has a critique on the exhibition of drawings by the Old Masters at the British Museum, beautifully illustrated with several magnificent plates in tint and color. This is a rare opportunity for those who cannot visit the European galleries, to study the draughtsmanship of the great masters, Rubens, Poussin, Vandyck, Raphael, Primaticcio, etc., etc.

The number closes with the usual studio talk from all the world over, showing various remarkable exhibits in the arts of crafts from the European centers.

SOCIETY NEWS.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Tioga Centre, New York, reports of meetings, copies of papers that have been read before the members, or anything of general interest to our readers.

Camera Club of New York.

After the summer quietude the regular monthly meeting of the club was held on Tuesday evening, September 8, at the new quarters, No. 5, West Thirty-first street.

President Crosby presided. The treasurer's report showed the affairs of the club were in good condition, notwithstanding the heavy expenses incurred in fitting up the new quarters in the spring. Several applications for membership had been made during the summer months.

The various committees made informal verbal reports. The librarian, Mr. McCormick, had spent considerable time in putting the library in shape. It was reported that he had been quite ill with appendicitis, which prevented him from attending the meeting. A vote of sympathy was passed for him. The secretary read a communication from Mr. F. C. Beach, general manager of the American Lantern Slide Interchange, which was in the nature of a call for a new set of lan-

tern slides to be contributed by the club for the season of 1903-4, to be ready by November 15 next.

The club by a unanimous vote elected Mr. Beach to represent it in the Interchange from November 1 next for one year. A vote of thanks was also passed to Mr. Beach for contributing an annual subscription of the AMERICAN AMATEUR PHOTOGRAPHER to the club. The meeting then adjourned. After the meeting Mr. Chevelier, representing the Rotograph Company, gave a demonstration in the work room upstairs before several members of Rotox paper (a slow print developing paper) which could be worked in subdued light. He made several exposures from different negatives and secured very good prints. Any good developer can be used having a few drops of a bromide of potassium solution added. One member remarked that he had found the paper excellently adapted for thin negatives, stating that it did not fog and kept the fine details entirely on the surface. He preferred the pyrocatechin developer without bromide and carbonate of potassium as

an alkali. The operator stated the paper was supplied in eight different grades, smooth, rough, thick and thin, and another grade called special portrait. To change the tone, after fixing, from black to a sepia brown it was only necessary to soak the prints for twelve hours in a combined alum and hypo bath made of four parts to ten parts of water and four parts of alum. The hypo is dissolved in five parts of water first, the alum is dissolved in the other five parts of water and added to the hypo constantly stirring; the bath works better after it is ripened. This is done by immersing in the bath a few old bromide prints for a day or so or adding a few grains of nitrate of silver. He exhibited specimens of a new transparent pigmented bromide film just being introduced by the Rotograph Company which promises many advantages. The novelty of this film is that a special chemical is mixed with the sensitive emulsion which under the action of the developer will cause the body of the gelatine film to be colored blue or sepia, according to the grade of film supplied. Enlarged negatives may be made on the film from small transparencies. It was stated the film would be supplied forty inches in width. It is quite tough and can be roughly handled. Its usefulness in carbon printing and half-tone printing is self-evident.

Fourth Chicago Salon.

The Chicago Society of Amateur Photographers has the honor to announce that, in conjunction with the Art Institute of Chicago, the fourth Chicago Photographic Salon will be held in the galleries of the Art Institute, from December 29, 1903, to January 24, 1904.

It is the object of the salon to give an opportunity to all persons interested in pictorial photography as a distinctive branch of art to exhibit such photographic work as will best portray artistic feeling and expression. To this end we cordially invite the submission of such works for the judgment of the Jury of Selection, under the conditions hereinafter set forth.

RULES AND REGULATIONS.

No awards are offered, and no charge will be made to exhibitors. Each exhibitor will be furnished with the official catalogue of the salon issued by

the Chicago Society of Amateur Photographers, which will be official notification of acceptance or rejection of the works submitted to the Jury of Selection.

Exhibitors may submit any number of pictures, but not more than ten pictures by one exhibitor will be hung.

The pictures will be hung in the gallery on a background of dark green burlap. They will be judged by the north light of a single large window.

All pictures submitted must be separately framed (with or without glass) or matted under glass.

The title of each picture and the exhibitor's name and address must be clearly written on the labels provided, which must be attached by the exhibitor to the back of each picture. Nothing may appear on the front of the picture except the title and exhibitor's name.

No accepted pictures may be removed before the close of the exhibition.

Arrangements will be made for the sale of pictures if desired, subject to a commission of 15 per cent.

All pictures must be forwarded at owner's risk, *carriage prepaid*, and delivered at the Art Institute not later than 5 p. m., Tuesday, December 15, 1903.

Return charges must be paid by the exhibitor.

All communications and all pictures submitted must be addressed to the Chicago Photographic Salon, The Art Institute, Chicago, Illinois, U. S. A.

It is understood, unless expressly forbidden by the exhibitor, that the Chicago Photographic Salon shall have the right to reproduce any accepted picture in the official catalogue, or in a souvenir to be prepared during or after the salon, or in such art or photographic journals as may comply with the regulations made by the Salon Committee.

The management will use all reasonable care to prevent any loss or damage to pictures in its charge, but will not be responsible for any damage.

By order of the Salon Committee.

ROSCOE R. KILKEY,
Chairman.

WM. B. DYER,
F. DUNDAS TODD,

Committee on Publicity and Promotion.

August 1, 1903.

ANSWERS TO CORRESPONDENTS.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y.

Portrait Lighting.

G. R. WILLIAMS.—We have never put the question to a practical test, but Harold Baker, an experienced British photographer and frequent writer to the journals, had an illustrated article in a recent number of *The Amateur Photographer*, in which it was clearly shown that portraits in front of a light background required a longer exposure than in front of a dark one. He says: "In actual practice I always give twice as long an exposure for a white background as I should give with the same subject and lighting with a dark background." We noticed the statement by Raymer to which you refer, and think we directed attention to it at the time.

Supplementary Lenses.

I. M. MARTIN.—The terms "tele-photo," "portrait," and "wide angle," applied to the supplementary lenses to be used in front of the ordinary lenses are misleading, as they in no sense convert them into such instruments. They are merely single, positive or negative lenses, and generally uncorrected, and all that they do is to lengthen or shorten the focus of the ordinary lens. Using the same stops the positive supplementary will shorten the exposure, and the negative will lengthen it.

Beware of Flattery.

T. R. MILLER.—No. 3 is the least objectionable, but certainly not worth enlarging for exhibition purposes. Your friend is either dishonest in her expressions of appreciation, or unfit for her position as a teacher of art. There is a vast difference between a print from a good negative representing "A Misty Morning" and one from a negative badly fogged.

We Pay for Original Ideas.

THOMAS RILEY.—No, we do better, gladly paying for suitable articles without competition, so send it on and don't forget to enclose stamps for its return, as we want only such as are truly practical. We are as anx-

ious to get them as you can be to write them.

Acid Fixing Bath.

FRANK WILSON.—Yes, we generally employ an acid fixing bath, and according to the formula long issued by Carbutt. The following, however, answers admirably. It may be used as it is for plates and films, but it is better to dilute by an equal quantity of water for prints:

Hypo	2½ oz.
Sodium sulphite	½ oz.
Chrome alum	¼ oz.
Sulphuric acid	15 minims
Water	10 oz.

Dissolve the hypo in 5 ozs. of the water, the sulphite in 2 ozs., the alum in 2 ozs., and the acid in the remaining 1 oz. Add the acid solution to that of the sulphite, and both it and the alum solution to the solution of hypo, the result being a bright green bath that need not be filtered, and that may be used over and over again.

Exposure Meters.

W. VERNON.—We prefer the exposure meter that is also an actinometer. With all forms of speed cards or tables the quality of the light must be a matter of guesswork, while with the Wynne or Watkins the value of the light is correctly ascertained.

Shutter Speed.

D. S. COPLAND.—The three markings on your shutter mean that when the pointer is placed over them the exposures are respectively ½, 1-5 and 1-50 of a second. For 1-3 place the pointer between the ½ and 1-5. See answer to W. Vernon.

Hand Camera Exposures.

Nelly Bronson.—With your camera and for your purpose you should not bother about stops and shutter speed. Use the largest of the former, set the shutter to the slowest, and snap only in very bright sunshine. You need have no fear of over-exposure: as in nine cases out of ten it will be the other way.

Suggestive Titles.

W. H. S.—Before you see this we shall be settled at Tioga Centre for the winter and shall then gladly suggest titles for all the pictures in the album prepared for the hospitals. We agree with you in thinking that suitable titles will, for that purpose, enhance their value.

Toning Bromide Prints.

THOS. E. CLARK.—Your difficulty in getting good tones with the hypo-alum bath may be due to the developer you are using. Metol-hydroquinone, although it makes good black and white prints, will not tone. Edinol is better, rodinal better still, but the best results are obtained with prints that have been developed with amidol. You will find a formula for amidol developer in your package of Eastman's bromide paper. The iron developer also given by them will yield good tones, but not as good as amidol. Uneven toning will be avoided if you move the prints occasionally during the first few hours. They may then be left over night or until the desired tone is obtained.

Hot Hypo Toning Bath.

T. E. C.—Yes, the heating of the toning bath hastens the toning, but it is a little more troublesome and risky than the cold bath. Proceed as follows: In 70 ounces of boiling water dissolve 10 ounces of hypo and then slowly add 1 ounce potash alum. The solution should be milky and must not be filtered. The prints must have been previously fixed, washed and dried. Immerse the prints in a portion of the toning bath (cold) to harden for 15 minutes, then transfer to a porcelain tray containing more of the bath, heated to about 110 or 120 degrees F. Toning will be complete in about half an hour. Rinse the prints in a tepid solution of water 70 ounces, alum 1 ounce, wash as usual and dry.

Toning Blue Prints.

CHARLES NEWTON.—Ferro-prussiate prints acquire black tones by treatment with a solution of silver nitrate, followed by development with iron oxalate. The print, fixed and washed as usual, is placed in a solution of silver nitrate, in which it is left until it has bleached, when it is placed in the developing solution. If, after development, it is placed in a solution of hypo the black tone will tend to disappear,

passing black to the blue stage. Thus with a little care, a print may be obtained in which the deep shadows are black, while the half-tones are blue.—

How to Make a Hektograph or Copying Pad.

JOHN S. JUDD.—A practical hektograph may be prepared according to the following directions:

Soak an ounce of Cooper's gelatine over night in enough cold water to cover it well, taking care that all the gelatine is swelled. Prepare a salt water bath by dissolving 2 oz. of common salt in one pint of water. Heat six or seven oz. of pure glycerine over the salt water bath to a temperature of 200 degrees Fah. Pour off from the gelatine all the water remaining unabsorbed and add the gelatine to the hot glycerine. Continue the heating for one hour, carefully stirring the mixture occasionally, avoiding as much as possible the formation of bubbles or froth. Finally add 20 drops of oil of cloves to prevent decomposition. The composition is now ready for pouring into the vessel designed to hold it while in use. This vessel may be made especially for the purpose, or a shallow cake tin may be used. After the tin is filled with the composition it must be placed in a level position, in a cool place, free from dust, and allowed to remain for at least five hours.

To prepare the pad for use, it is necessary to pass a wet sponge lightly over the face of the gelatine and allow it to nearly dry before taking the first copy. If this precaution is neglected the face of the pad will be ruined by the first transfer.

The writing or drawing to be copied must be made with hektograph ink, using a new steel pen. After the writing becomes dry it is placed face down on the pad and gently rubbed on the back to insure the perfect contact of every part. After remaining on the pad for about a minute, remove the original and proceed to take copies by placing the paper on the pad and removing it therefrom, always beginning at the corner, as shown.

After taking the desired number of copies or when the impression is exhausted, the pad is then allowed to dry before being used again. The washing is unnecessary when the pad is left unused for two or three days, as the ink will be absorbed so as not to interfere with making a new transfer.



**"BUILDING
AIR CASTLES."**

**No. 1665.
Geo. E. Fitch.**

THE
AMERICAN AMATEUR PHOTOGRAPHER.

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NOVEMBER, 1903.

NO. 11.

THE CHOICE OF A CAMERA AND LENS.

IF there is one request that comes to us more frequently than another it is for advice as to the choice of a camera and lens; and although we have time and again said all that we considered necessary on the subject, the requests continue to come. We therefore once more return to the subject with the intention of being able in future to refer all such questions to this article.

The lens naturally comes first, as although the catch-word of an eminent firm, "It's all in the lens," should be taken with considerable limitation, there are certain of its features that help at least to make or mar pictorial work. And the first and most important is its focal length in relation to the size of plate it is intended to cover. In this connection, lenses are divided into two classes, ordinary and wide angle lenses, and of the latter we have at present little to say except that they should never be used when the business can be done with one of ordinary or narrow angle. Opinions vary as to what is or is not a wide angle, but we are inclined to hold that when any lens is made to cover a plate the diagonal of which is greater than its focal length, it is being used as a wide angle lens. Wide angle lenses, properly so-called, differ in their construction from lenses of ordinary angle, but most modern lenses, and all the anastigmat family cover, and cover perfectly plates much larger than they should be used on for pictorial purposes; so that, as a rule, modern lenses should be used only on plates one size smaller than that for which they are listed, by those who want their pictorial work to look its best. And there is a good reason for it. Pictorial photographs taken with lenses shorter than the diagonal of the plate, and even those taken with lenses not longer in a less degree, show a perspective that appears altogether wrong, not, as is generally supposed, because of a fault in the lens, but because to get in all that is desired the photographer has to go too near the object, to take a too close point of view; a point so near that distant mountains look like mole hills, while near objects are fearfully exaggerated.

For pictorial purposes, then, the lens must not be shorter than the

diagonal of the plate and once and a half the length of its longest way will generally give more desirable results; and that applies equally to all forms and qualities of lenses. The next question is as to the kind of lens, single, double, or the more perfect, from an optical point of view, anastigmat. And the answer depends on two things: first the condition of the purse, or the willingness to pay more than, from a pictorial point of view, is necessary; and, secondly, the kind of work that is proposed to be done. Where "money is no object," and the photographer has pleasure in the possession of perfect things, we advise getting one or other of the anastigmats, just which is beyond our province in this article. It will do all that any other lens will do and very much more than even the best of the older varieties of lenses; and, better still, especially in this time of craze for rapidity, all of them are quicker and some of them very much quicker than any of the older forms.



No. 1667.

"REFLECTIONS."

J. S. Crockett.

Where, however, the purse is light or the photographer does not care to spend more than is actually necessary, he may do quite as well with a lens costing very much less, provided it be suited to the kind of work he intends to do. If it is landscape pure and simple and the photographer does not care for great rapidity; a single lens costing only a tithe of an astigmat of the same focal length will do the work in every respect as well as the most expensive. But the single lens has its limitations and its disadvantages. Its working aperture is rarely greater than $f-16$, and therefore it is, as times go, slow, four times slower than the doublet at $f-8$, that in its turn, being four times slower than some of the anastigmats. Then, its lines, both vertical and horizontal, are bent from the center with the stop in front and towards it with them behind. The bending or curvature

is not much excepting towards the edges, but sufficient to show in an architectural subject.

Next in order is the doublet, known under various names as rectilinear, symmetrical, rectigraphic, etc., all having very much the same qualities and all working at or about f-8, costing four or five times as much as the single lens, and, as the names imply, giving straight lines, the back element correcting the curving of the front. Until the introduction of the anastigmats this was the best all-round lens, and was considered suitable for all kinds of work; and even now, for pictorial purposes unless where extreme rapidity is required, quite equal to the best anastigmat in all essentials. While four times slower than some of the anastigmats, it is fast enough for most purposes with a rapid plate and in good light, and therefore may be said to be the pictorial photographer's mainstay.

Where, however, for scientific work, copying, or other purposes per-



No. 1671.

"IN PASTURE."

W. H. Blacar.

fect definition to the extreme edges and flatness of field are required, a lens of the anastigmat type must be secured, and while they have all certain qualities in common and are all as near perfection as may be, they vary in certain other qualities to an extent that makes selection with a view to the particular work on hand desirable. While doing everything that can be done by either the single lens or the doublet they will do much that neither of them can do; and the pleasure derived from the possession of that which is as near perfection as it may be, is, to those who can afford it, a sufficient inducement to invest in the anastigmat.

As for the camera, very little need be said. The essentials are that it shall be light-tight, have a draw, that is a length of bellows, to admit of the focusing of near objects, and, although not absolutely essential, a swing

back. All else is simply a matter of taste and a desire for convenience; one having these essentials and costing, say, five dollars, will, so far as pictorial photography is concerned, give in every respect as good pictures as one costing fifty.

But there is fashion in photographic apparatus as well as in everything else. While confessing to a preference for the older method by which cameras and lenses were selected separately, more often than not from different sources, we know that would-be photographers will generally follow the present fashion of purchasing the camera already fitted with a lens. The prices of lenses increases with the increase in their focal length; one of $6\frac{1}{4}$ inch costing, say, \$40, while one only three inches longer costs \$55; and as the optician and those who deal in cameras already fitted with lenses care more for covering power than apparently perspective, many, if not most of the lenses in such cameras are of too short focus. We have said enough, however, to enable any one to know what he should or should not select.

While on this subject we may answer a question that has often been put, but of which we have generally fought shy, not caring to say what might even appear as recommending any particular maker's articles in this column. The question takes the form of what particular camera and lens we generally employ. Our favorite camera, which has been in more or less general use for over thirty years, is of the old-fashioned folding form, square and with square bellows, 7x5, with a draw of over 15 inches. It has a rising and horizontal sliding front and double swing back; with a movable partition and spare front board for stereoscopic work. The lens is a plastigmat of $7\frac{1}{4}$ inches equivalent focus, the front and back elements 13 inches each. The lens is fitted into a volute shutter with the pointer set to "T" most of the time. In the center of the ground glass is a penciled square 5x4 inches, and as most of our work for several years has been the making of small negatives for enlargement, we generally use the combination, the complete plastigmat, *and always include the whole of the subject desired within the limits of the 4x5 square*. For 7x5 photographs we invariably employ only the back lens, giving an angle of 30 degrees, about the very thing for the highest possible pictorial possibilities, and the most helpful in securing compositions in the beauty of simplicity.

With such an outfit the photographer is fit for anything that comes in his way, and notwithstanding what we have said as to the suitability of the lower order of lenses for pictorial work, no one can look on the image on the ground glass made by the plastigmat, and indeed with anastigmats generally, without feeling that where perfect definition is an object the anastigmat is a *sine qua non*.



No. 1666

"THE BLACKSMITH."

Helen L. Griswold.

SPECIAL SUBJECT SERIES.—XI.

PORTRAITURE.

BY DR. JOHN NICOL.

PORTRAITURE is at once the most important and most difficult of all branches of photography. Time was when it was supposed that it could only be successfully accomplished in a properly equipped studio with both top and side lights, and the more of them the better, and, so far as the ordinary or average professional portraits are concerned, portraits in which everything included in the space and especially the dress must be as sharp as the lens can make them, the studio is as necessary as ever. But that is not the kind of portraiture of which I now want to speak; as, thanks to some of the more artistic of our amateurs, photography has been shown to be capable of something much higher.

The kind of portraits to which I refer, and which have done so much to place photography in its true position amongst all true lovers of art who have had an opportunity of seeing them, are those in which the aim of the artist has been more intent on revealing the inner than the outer man; and in which, by suppression and accentuation the eye is led to the point where that revelation is made. For such portraiture the studio or "glasshouse" is not only not a necessity, but, as some professional photographic artists have discovered, is not so good or so convenient as a suitable single window in an ordinary room. While this is good news for the amateur, he must remember that for him or most of him it has its limitations. Few amateurs have at their command a room sufficiently large to admit of the use of a lens of long enough focus for anything more than a bust portrait, it not being possible to do justice to the kind of portrait I mean with anything shorter than twice the length of the longest way of the plate; a lens of shorter focus forcing the photographer to go closer to the sitter than is consistent with an apparently true relation between objects in different planes.

Keeping, however, within the indicated compass of his lens, the amateur who commands a room with a bay window or even a window of the ordinary size, may, if possessed of the artistic temperament and sufficient technical knowledge, do as perfect work as can be done under any conditions.

The room adjoining that in which I write will do as well as any other for a description of one of the several ways by which a portrait may be arranged and lighted so as to produce work of the very highest class. The room is about 18 feet 3 inches by 13 feet six inches, with a bay window in the longest side facing the SSW. The window has an 8 foot opening, starting 7 feet 5 inches from the ESE end and 2 feet 7 inches from the WNW end, just as if intended for portrait work, being very much better than if it had been in the middle. The three lights are each 64 by 31 inches, the one nearest the background, at the short end of the room, is generally blocked by opaque cloth, the others have each an opaque shade on a roller fastened at the bottom, and one of "cheese cloth" or any suitable translucent material on a roller at the top. Each

shade goes the entire length of the light, so that each can be arranged so as to be altogether light or dark, or any degree thereof. The background is placed near to the WNW wall, only 2 feet 7 inches from the side of the window, but as the nearest light is opaque 2 feet more, or 4 feet 7 inches, may be taken as the distance between it and the light, a sufficient distance to give the artist an opportunity of placing it where it will be most effective.

If now a center be set, about four feet from the WNW wall, that is in front of the background, and five feet from the center light, and a circle four feet in diameter drawn round it, the operator will have defined the boundary within which to place the sitter, and by moving him about from place to place he will find just the lighting required. But not, as a rule,



No. 1670

"A TIOGA COUNTY LANDSCAPE."

Arthur Levine.

without a reflector, white material stretched on a movable frame, that can be placed at just the desired angle and just the right position. In placing the reflector the artist will do well to remember the "angle of incidence"—that light falls on the subject at the same angle at which it reaches the reflector from the window, and by moving it about he will find one position at which it answers his purpose better than at any other. The position of the camera, of course, depends on the result required, but will always be at or near the wall in which the window is, and towards the ESE wall, nearer or farther, according to the intended size of the figure.

But all this is only a means to an end, and while with proper arrangement, proper disposition of sitter and curtains or shades, and proper ex-

posure a result perfect in technique may be secured, that is only half and by a great deal only half the battle. So far we have got only the outer shell, the kind of thing that passes current with most of the profession; but the amateur, the true artist who wants the inner as well as the outer man and woman, has a more difficult task to encounter, and just how to overcome the difficulty is beyond my province, as it must come from within rather than without. While it is true that expression, action in contradistinction to repose, and much else must be shown by the sitter before it can be caught by the lens, the photographer may do much to produce such necessary appearances, and he can do much by suitable lighting exposure development and printing to suppress and accentuate, where both are necessary; and these are just the qualities or abilities referred to in the saying that "an artist must be born, not made."

But it is not with the artist as with the Irishman who, on being asked if he could play the fiddle, said he did not know, as he had never tried. There is in many a latent artistic ability that needs only to be brought out; some even at the eleventh hour having astonished themselves and the art loving world by work hitherto unthought of.

To all such the above suggestions should be sufficient to start them on a career of usefulness both to themselves and their friends, and while I cannot tell them how to make both fame and fortune, I have given enough to start them on the right path, and if it is in them practice, thought and study will bring it out.



No. 1657.

"BOATING ON THE UPPER SUSQUEHANNA."

Arthur Levine.

A PLEA FOR THE BLUE PRINT.

By A. SCOTT.

WHY is the blue print so despised and neglected? It cannot be because of lack of beauty or lack of permanence, nor because of difficulty in its production. Blue has ever been a favorite color in the schemes of the decorators, and for many purposes nothing can be more beautiful or more suitable than a good blue print; while "Turnbull's Blue," the coloring matter of the blue print, is one of the most permanent of all metallic colors, and if proof were needed it exists in numerous prints that have stood the test of time for over fifty years. One such lies before me now. Five boys in a boat, the youngest a child in arms, and he has long since made me a grandfather, while the blue is as beautiful to-day as when printed on August 17, 1865, as is recorded on the back in a very much faded ink.

May it not be that, as is sometimes said of photography, its fatal facility is against it? We rarely value that which is easily got and surely nothing is simpler than the production of a blue print. A single solution in a bottle which, as the editors have repeatedly shown, will keep indefinitely, applied with a brush or bit of sponge on almost any kind of paper, and after printing, only washing in acidulated water. Another cause for the neglect may be found in the "almost any kind of paper"; the paper being of more importance than is generally supposed. Paper that has a knack of soon turning yellow degrades the blue, changing a thing of beauty into something very different; while paper that is porous from insufficient sizing or other cause, allows the image to sink in instead of keeping it on the surface. The worst paper for the purpose is that from wood, but any well made and well sized rag or even "Esparto" will answer the purpose, although the best is all the better for an additional sizing with arrowroot.

Even with the trouble of suitable selection and sizing, the blue print remains the simplest of all printing processes, while for many decorative purposes it is second to none. Formulæ for the preparation of the solution is to be found in all the text books and every now and then in the magazines, but the most information, both as to the preparation of the solution and the changing of the color of the image will be found in "Facts, Figures and Formulæ" of the *Photogram* series, which every photographer has or ought to have; so that I need not occupy space with it here.

While the blue print holds the premier place for decorative purposes it is equally suitable for the making of the thousand and one tokens of love and respect that pass from hand to hand at the Christmas time, making this article more than usually seasonable, to both men and maidens.

What is the matter with the blue print for the picture post-card? Not a word can be said against it, while much may be said in its favor. The solution is always at hand, it dries in a few minutes, cards are cheap and do not need sizing, and although the printing is slow compared with other

methods, there are few who go to their daily work who do not leave at home some one who can look after a few printing frames and have a batch ready for development and washing on their return; and who will deny that a good blue is not better than the colors of many of the cards that one sees daily.

Lampshade frames are to be bought or designed into which blue prints on translucent paper can be inserted as easily as mica into a stove, and even on stout paper they are sufficiently translucent to be thoroughly effective. Cut out mounts for other pictures with sprigs from nature by way of ornament, if controlled by taste may be things of beauty, and cost so little and are so easily removed and replaced that they may be changed from time to time as soon as one gets tired of a set. Then, there is the menu for the Christmas dinner. Few photographers, especially those not far removed from the stage of the beginner, have not negatives of friends, or would find difficulty in furnishing each guest with a neatly vignettied head of herself or himself in one of its corners. Such a menu, especially by the younger members of the party, would be treasured and referred to for many a day as a reminder of a happy gathering. A vignette of the home, either temporary or permanent, at the head of note paper, or of the photographer in *propria persona* at the bottom by way of signature, would add a charm to the written words from the loved ones while far away. Another, and one of the most striking uses to which I ever saw blue or indeed any other kind of prints put was a frieze in the "cosy" room of one of my lady friends. She was a keen photographer, employing only a 4x5 camera, but she had enlarged her negatives to about 10x12, and printed them in blue, and pasted a line of them all around the room just below the cornice. The decorative scheme was of blue and gold and the effect was simply charming.

Then, there is the Christmas card. While it is true that they can be got in great variety to suit the tastes of every one and at a trifling cost, the best cannot hold the candle to such as the photographer may make for himself, nor are they valued half as much by those to whom they are sent. Of those the calendar form is perhaps the most interesting and offers the greatest opportunities for variety and the exercise of taste. What can be better than, say, a dozen sheets of cardboard of a suitable size bound with a ribbon so as to fold one after another as the months pass, with on each a seasonable picture or a series of pictures recording the events of the year that has passed or those that are expected, and with the calendar proper below? Or, for less important friends, a single sheet, larger in size, of course, with a single picture and the calendar in a block at the bottom? Calendars in blocks and single sheets are on the market in all desired sizes, and blue on palish orange shades, bearing on each something of the individuality of the sender would carry joy with them wherever they went.

So, as I have already said, it is in the thousand and one little things, souvenirs or holiday gifts, that the blue print is at its best; and a few sheets of cardboard and celluloid of various shades, one bottle of blue print solution and another of gold paint, a few yards of colored ribbon, a pair of scissors and a pot of paste, there is no limit to the number of beautiful things that a lady may produce.



"AMONG THE WHITE MOUNTAINS."
(Mt. Webster in the distance).

Joseph P. Nichols.

TANK DEVELOPER FOR CRAMER PLATES.

The G. Cramer Dry Plate Co. have just issued a new formula for tank development of Cramer plates. We publish the formula below.

STOCK SOLUTION.

Water	32 ounces.
Carbonate of Soda (dry).....	2 ounces.
Sulphite of Soda (dry) according to desired color of negative.....	1 to 1½ ounces.
Bromide of Ammonium.....	30 grains.
Citric Acid.....	30 grains.
Hydrochinon	1 dram.
Glycin	2 drams.
Metol	2 drams.
Pyro	4 drams.

Dissolve the chemicals in the given rotation.

To preserve the Stock Solution, we recommend filling same into small bottles of the exact size, to hold just enough for making the diluted solution for the tank.

Water	120 ounces.
Stock solution.....	6 ounces.

The bottles should be quite full and tightly corked.

For use:

The developer should be used fresh, and its temperature kept between 60 and 65 Fahrenheit, until development is completed.

Immediately on immersing a plate in the Tank Solution, move the plate up and down with a quick motion, to prevent streaks and air-bells.

THE PHOTOGRAPHIC EXHIBIT AT THE ST. LOUIS WORLD'S FAIR.

COL. JOHN A. OCKERSON, Chief of the Department of Liberal Arts of the Universal Exposition to be held in St. Louis in 1904, is in receipt of information from the British Royal Commission, indicating that the photographic exhibit from Great Britain will be the most elaborate and complete ever made by a foreign country at an Exposition.

Hon. Benjamin Stone, M. P., has taken great interest in this exhibit, and, with a collection of photographs from the various amateur photographic societies of England, Scotland and Ireland, intends to outdo any and all nations who are represented at the World's Fair.

The photographers of America will now have to hustle if they do not want to be beaten on their own ground, and with the hope that they will redouble their efforts we take space to publish in full the

RULES GOVERNING THE SUBMISSION OF PHOTOGRAPHS.

It has been determined that while the main exhibit of photographs at the Universal Exposition of 1904 will be in the Liberal Arts Department, yet, under certain rules and regulations, selected pictures will be given a place in the Art Building, under the rules of the Art Department.

After careful consideration of the problems involved, a thorough canvass of the situation and fully testing the sentiment of the members of photographic associations, societies and clubs, the following conclusions have been reached in regard to the collection and display of photographs at the Universal Exposition, and it is hoped that the photographic fraternity will be more than generous in their co-operation to the end that the highest examples of their work will make the photographic section conspicuous for its excellence.

1st. Each society of photographers is requested to select in such manner as may be deemed best, from photographs offered by its members for exhibit, such pictures as they consider most worthy of a place in a great Universal Exposition. The pictures so selected, together with such as may be offered by individuals not members of a photographic society, will be submitted to a committee of review and selection.

2nd. The following named camera clubs and photographic societies are requested to name one person each as a member of a committee of review and selection, the members so named to be certified by the officers of the respective clubs to the Chief of the Department of Liberal Arts not later than November 1, 1903. The societies to be represented are: The Photographers' Association of America, the Photographic Society of Philadelphia, the Society of Amateur Photographers of Chicago, the Boston Camera Club, the Camera Club of New York City, the California Camera Club, and the Photo-Secession of New York.

3rd. The Committee of Review shall, under the direction of the Chief of the Department of Liberal Arts, carefully examine each photograph offered, dividing them into three grades or classes and one rejected class, the grade to be marked on each picture according to merit.

4th. Grade one, or the pictures deemed to be of the highest merit, shall be certified to the Chief of the Department of Liberal Arts, who shall in turn certify them

to the Chief of the Department of Art, and under his direction said pictures shall be examined by the National Jury of Selection of the said Department of Art.

5th. The pictures so examined by the National Jury of Selection, which shall be by them considered worthy of such distinction, shall be hung in the Art Building under the rules of the Art Department.

6th. Pictures of the first grade, not admitted to the Art Palace under the above conditions, may be hung in the Photographic Section of the Liberal Arts Palace. In addition to these, there may also be hung pictures of the second grade and as many of the third grade as the space available will permit.

7th. Suitable screen walls will be constructed in the Liberal Arts Palace on which pictures may be hung. The special adornment of space allotted to an exhibit



ARTS BUILDING ST. LOUIS EXPOSITION.

must be done by and at the expense of the respective exhibitors in each case.

8th. The expense of special requirements for lighting, if such be found necessary, will be pro-rated among the exhibitors at the established rates.

9th. Each picture offered as an exhibit must be the individual work of the exhibitor, and should be accompanied by the title of picture, the name and address of the exhibitor, all but the title being in a sealed envelope so that the authorship will remain unknown until after the pictures have been graded by the committee. The outside of envelope to bear a design or name which shall also be entered on the back of each picture to identify ownership.

10th. All pictures offered must be mounted, framed and matted, and all expense of transportation must be fully prepaid by the exhibitor, and must be shipped at owner's risk, so as to reach St. Louis not earlier than January 1, and not later than January 30, 1904. Shipping labels will be sent upon application.

JOHN A. OCKERSON, Chief, Department of Liberal Arts.

READING RESULTS.

I HAVE found that one of the difficulties many workers cannot surmount is the reading of results. A plate is exposed and developed, and an unsatisfactory result obtained. To decide what are the errors which have produced that unsatisfactory result is important, otherwise no lesson is learned from the failure. Let me take two or three pretty general cases. The negative shows very clear shadows without detail; this indicates under-exposure. If the high lights are exceptionally dense, development has been too prolonged as well. Development is often unduly prolonged in the hope of getting out shadow detail. If there is detail in the shadows and the high lights are so dense as to print perfectly white, the reason is again too long development. This is, of course, assuming a normal developer. The addition of much bromide of potassium to the developer might produce the same effect. If a negative shows detail in the shadows and gradation through the half tones to the high lights, but prints too flat, showing too little contrast, the reason is too short development. Supposing the shadow detail is very pronounced and a gray "all-overish" appearance is present, it is probable that considerable over-exposure is the cause. The gray appearance without excessive strength of detail is probably fog from the use of an unsafe dark-room light.

It is always easier to say whether errors are those of exposure or of development if a normal developer is used and the development continued for a certain multiple of the time of first appearance. In these cases under-exposure gives a general thinness, with, of course, lack of shadow detail. If the negative is too dense—that is, thick when held up to the light—and requires a long time to print, the exposure has been too long. The finished print may be satisfactory, but it is inconvenient to have to spend so long in printing. The use of an exposure meter will enable plates to be accurately exposed within a small margin, and a developer such as I give below will bring out the first appearance in forty-five to sixty seconds. For portrait work I should use a factor of five, and for landscapes or interiors, one of possibly seven.

A.—Pyrogallie acid.....	60	grs.
Metabisulphite of potass.....	15	grs.
Water up to	10	ozs.
B.—Soda Carbonate.....	1½	ozs.
Soda sulphite.....	1¾	ozs.
Water up to.....	10	ozs.

I usually use 1 oz. of A, 1 oz. of B, and 1 oz. of water. If the worker develops with the factor I have suggested above, and finds his negative right in every respect except that it seems hardly strong enough for his idea, the factor may be increased from seven to nine or ten even; but if the same factor is always employed, and exposures are correct within a little, a uniform degree of printing contrast will always be obtained. I know of no method of development which enables the intelligent worker to place his finger on the mistake he has made so surely as this one of factorial developments.—C. H. HEWITT in the *Newcastle Chronicle*.

WORDS FROM THE WATCH-TOWER.

BY WATCHMAN.

IS there anything "new under the sun?" There may be, but surely the "New Funnel Bottle" mentioned in *The Amateur Photographer* of October 30th has not been new for at least thirty years. Some time in the early seventies the York Glass Co. made for me, and I know sold to others, just such bottles. They were of green glass, ten and twenty ounces, the funnel mouth of the latter being, if my memory is not at fault, about two and a half inches in diameter. The head of the stopper was just below the level of the mouth, and dust was kept out, in my case, at least, by discs of cardboard, or cardboard caps.

* * *

Dans, in *The Amateur Photographer*, shows his knowledge of human nature by recommending lanternists to show their mediocre slides first, reserving the finer effects for the end of the display, adding that "every one likes to see improvement and not retrogression, and if every one's *best* attempts are exhibited at the beginning of the evening, by the close the audience will scarcely wish to remain to see those of a weaker variety, and in addition would not go away with a good impression of the exhibitor's capabilities."

This is all very well so far as it goes, but *should* there be any weak efforts in an amateur's set of slides? Most emphatically NO. The professional slide maker must please the public to which he caters, but the amateur has only himself to please and nothing short of a nearly perfect should ever be allowed to leave his hands or be shown on the screen.

* * *

Few men in the photographic world are more highly respected than Dr. Miethe, or more confidently followed as a guide; but, to my way of thinking, he lowered that reputation by a reef when he went to the patent office with his discovery of the orthochromatizing effect of ethyl-red. Photographic patents have always been to me as the red rag is said to be to the bull, and I regard photographic patentees as a shade less than morally honest. For all they have learned including that that has led to the discovery of what they think new, they are indebted to those who have gone before, and the least they can do to be sterlingly honest is, by freely giving their discovery to the world, to pay to some little extent at least a part of that debt.

But the getting of a patent does not always mean the securing of a fortune, nor is Dr. Miethe finding his altogether plain sailing. The charge of \$14.40 for 61 grains, for even a good orthochromatizing dye seems to have set the German plate makers a thinking, the result being a declaration that the patent is not worth the paper on which it is written. That, of course, remains to be seen, but it seems clear that ethyl-red was discovered as far back as 1883, but soon after discarded because too fugitive. Two years ago, however, Dr. Koenig again prepared some and sent samples to many experimental photographers, including Dr. Miethe, and on that account the patent is supposed to be worthless. In reply to that statement;

however, Dr. Miethe declares that he received the sample two months after his patent was applied for, and there the matter stands.

Nor does it matter much how it shall be decided, as Dr. Koenig has discovered something better under the name of "Orthochrom T," which, according to Dr. Valenta, gives an almost unbroken spectrum band from $B\frac{1}{2}$ C to nearly *h*. No doubt this latter dye is also patented, but Dr. Koenig is a member of the Hoechst Dye Works, which very materially alters the case.

* * *

Is it going to be with the post-card picture as it was with the stereogram, forced out of respectable society because of vile pictures produced by viler people? I hope not, but prevention is better than cure, and wherever the thin edge of the wedge appears it is the duty of all who see it to do what they can to nip it in the bud. So far as I know, the evil has not reached this country yet, but as it is already rampant on the other side, we had better keep our eyes open. How rampant may be guessed from the fact that in a single case recently brought before one of the London magistrates of 1,396 cards seized, 1,296 were found so objectionable that they were ordered to be destroyed.

* * *

It is sometimes amusing to see the grounds on which some would-be authorities assume to express an authoritative opinion. At a recent meeting of the Croyden (England) Camera Club, during a discussion on rollable films, a Mr. Harper proudly boasted that he had never used a film in his life, and had no hesitation in condemning them as utterly unworthy of the serious worker, adding that he based his opinion on what he had heard.

* * *

The editor of *Photography* is one of the leaders that I generally feel safe in following, but surely he is just a little too pessimistic in the following opinion of the eleventh annual exhibition of the photographic salon now open in the Dudley Gallery, London. This is what he writes: "Six years ago this exhibition would have taken the world by storm. To-day the world finds it flat, stale and unprofitable for the most part. Every other picture bears upon its face the stamp of a work done just so, because something else done just so has been well received aforetime. Even the young and rising contributors seem to be treading in the soiled footprints of men gone the road before them. Freshness, pioneering, and naivety are conspicuous by their absence. There is no youth. The salon is outworn and *blase*. Amateur photography of the artistic sort has stuck."

Although the wish is very far from being father to the thought, there seems to be in it the ring of truth. While it is but natural that the intending exhibitor should aim at suiting his work to the known leanings of the selecting committee, the editor of one of the American magazines even went so far as to advise his readers to study the failings and even the fads of the judges, if they had any, and work accordingly, the practice is not only degrading, but thoroughly inimical to progress.

I have in my time had something to do with exhibitions and know that the editor of *Photography* hits the nail on the head in the following caution to exhibitors not to be misled by the too often undeserved praise of an ill-informed critic inspired by a too officious friend. Undeserved praise, or over praising even when deserved, rarely does good and almost always does evil, both to the general public who look to the critic for guidance and to the photographer, always too ready to think well of his work.

"INSPIRED EULOGY.—The lay press in its notices of the salon has given no small degree of prominence to the work of Mr. Coburn. We are far from anxious to belittle that gentleman's really fine exhibit, but it is well, not for his benefit alone, but for that of the great body of pictorial workers who trust for artistic support to such broken reeds as the lay press affords, if we point out that this unanimity is not so valuable as it would be if it were either spontaneous or informed. On press day at an exhibition of this kind, a number of scribes, male and female, are sent by the daily papers, and the exhibition authorities tell off one or two to inspire these critics, or at least to provide them with copy. At this year's salon, we believe, most of this work was undertaken by a volunteer, who for reasons of his own glorified the work of Mr. Coburn in a way which he was quite unable to justify. More than one enquirer desired to learn the nature of the super-excellence of some particular picture, but, instead of getting any information on the point, he was promptly led off to another exhibit, about which a similar adjectival torrent was outpoured. Hence it would be well if those who read such "criticisms" would note that they are by no means spontaneous, and perhaps Mr. Coburn himself may be glad of a hint to draw the line between genuine and fictitious appreciation. He will not be the first worker who has had conferred upon him altogether spurious commendation, which had its origin, not in his own merits, but in the desire of some critic, for reasons into which we need not inquire, to adopt a dogmatic pose, and to deliver *ex cathedra* opinions from a little home-made tabernacle."

* * *

Before leaving the salon I would like to ask a question as to the benefit to be derived from affixing what seems so absurd prices to some of the pictures. Take, for instance, that with the apparently meaningless title "October," No. 113, in the catalogue, and described in *Photography's* notice as "another of those hair-shrowded females that seem to lurk in all the dark corners of America and France, has been unearthed by Mr. Horner, and named "October" perhaps on the same principal that Crusoe named *his* darky Friday." To give point to his statement, for I can see no other reason, the portrait has been reproduced, and I think most people will agree with me in saying that he might have with justice said a great deal more against it, and yet it is priced at \$40.32.

* * *

Some folks are hard to please. There is at present in the Royal Photographic Society's exhibition a picture of part of a "grouse moor," by W. R. Bland, who although he has not been awarded a medal, certainly de-

serves one. The print is from a 15x12 negative, and although he has photographed the district in which it is for many years, I am told that seven negatives were actually made before he got one that he thought good enough. Nor was he less particular in the making of the print, not fewer than twenty-four sheets of platinum paper being used before he succeeded to his satisfaction.

* * *

It is amusing to see the number of Daniels that from time to time come to judgment. The latest that I have noticed appears in a contemporary with what he calls an innovation for those who care to know it. Speaking of developing papers, he says: "Most all the papers on the market to-day are very good, but what surprises me is that so little attention is given to the developer. It seems that those who are using these papers are satisfied with the old standby 'Metol-hydroquinone,' not realizing that more brilliant results than they are getting can be obtained with these papers. I have tested these papers with every developer on the market, and find that with amidol, and used with my own formula, results are obtained as with no other formula or developer. I make up a stock solution of

Water	40 oz.
Sodium Sulphite Cryst.....	2 oz.

For use:

Above stock solution.....	10 oz.
Amidol, dry.....	40 grs.
10 per cent. Sol. Bromide.....	5 to 10 drops.

If I have not my weights handy, I use a fairly new 10-cent piece to weigh my amidol. This gives me exactly 38 grains.

Forty grains of amidol will produce a blue-black. This can be modified to a gray-black by using less amidol. I sometimes use bromide papers for contact printing, and find the amidol gives me the same rich brilliant effects, but I take only 30 grains to the above formula."

Just where "my own formula" comes in is somewhat difficult to see, amidol sodium sulphite and bromide having been in pretty general use ever since that excellent reducer came into the market, and in various strengths, including, of course, *his* four grains per ounce.

* * *

The Latent Image is still as great a mystery as ever and is likely to remain so in spite of the fact that one of our scientists is of opinion that if it were possible to construct a balance sufficiently delicate that mystery might be solved; and of the other fact that the balance has been designed. The balance in question has been designed by Professor Nernst, the inventor of the lamp that bears his name, and is so delicate that it will indicate to the three thousandth part of a grain. But I, too, in my little way, have looked into the nature of the latent image far enough to lead to the firm belief that it is the result of the liberation of a part of the bromine of the silver bromide, but I am equally firm in the belief that such liberated bromine is not allowed to leave the plate, but is at once taken up by the gelatine; and if so, the most delicate balance could show no change in weight.

EDINOL BAYER COMPARED WITH OTHER DEVELOPERS.

A paper read by A. Villain, chemist, before the Society for Photographic Studies, Paris.

IT has often been stated that all developers are good when one knows how to use them. Very true! All the known developers, from iron oxalate to the one which appeared in the market last, edinol, are employed daily, all of them having enthusiastic partisans. If, however, you consult amateurs, you will find scarcely two who use the same formula or proceed in the same manner, even though they are working with the same developer. Pyrogallic acid, our old standby, which is always used when modern developers fail to give the desired results, is still employed in many different formulæ, with caustic soda, with acetone, with potassium carbonate, etc. It is used principally for the development of plates, very few amateurs employing it for papers or for lantern slides. Hydroquinone, which was very popular some time ago, is now considered as "acting too hard" for the development of plates, and is therefore mixed with metol or eikonogen, to obtain softer effects on plates. An old solution being excellent for lantern slides and transparencies, some amateurs use it for the development of bromide gelatine paper. Diamidophenol (amidol) is generally used for papers, snapshots or under-exposures. Very few amateurs know how to use it for time exposures or lantern slides.

Whence this diversity of opinion and methods of use? As I view it, it is because developers that are good for negatives are not generally adapted to papers or *vice versa*. Therefore the usual developers cannot be used for all purposes and are not, so to say, all-round developers.

Consequently a product that could be used indiscriminately for papers, negatives or lantern slides, for slow or quick development, which would suit the requirements of the amateur as well as the professional, would, indeed, be gladly welcomed.

I do not think that I exaggerate if I say that the new developer "Edinol," of the Bayer Company, answers all these requirements. Before its introduction I used pyro with caustic soda (formula of Mr. Drouet) for the development of my plates; diamedophenol (formula of Mr. Lumiere) for bromide gelatine papers, and an old hydroquinone potash bath (formula of Mr. Balagny) for enlargements and lantern slides. Now I am using nothing but edinol.

Let us see why and how:

I do not like ready prepared developers, in which the picture is allowed to work its own salvation regardless of exposure, and where everything works like a slot-machine. I prefer to prepare my developer in two solutions, mixing and using it according to the requirements of each particular case.

Negatives.—For developing negatives I have simply replaced pyro by edinol. When ready to develop I pour 7 ounces of water in a glass and add 90 grains of sodium sulphite (des.). These 90 grains of sodium sulphite can be advantageously substituted by 60 grains acetonesulphite (Bayer), thoroughly dissolving it by stirring with a glass rod. Then I add 30 grains of edinol, and when this is in solution, add 4 to 10 drops of a 10 per cent. solution of potassium bromide, and lastly 8 to 12 drops of a 20 per cent. solution of caustic potash.

In order to simplify the weighing I use little wooden spoons of known volume.

My bath contains therefore :

Water	7 oz.
Sodium sulphite (des.).....	90 gr.
or Acetonesulphite (Bayer).....	60 gr.
Edinol	30 gr.
10 per cent. solution of bromide from 4 to 10 drops.	
20 per cent. solution of caustic potash 8 to 12 drops.	

The plate is placed into this bath ; and if no trace of a picture appears after one minute I add, drop by drop, some more of the caustic potash solution, until the high lights appear. The image gradually develops and when all the details are well defined, I add again one or two drops of the alkaline solution, so as to obtain more than the desired density. In the fixing bath the negative will always lose a little of its intensity, without however losing in value, even the most minute details not being affected ; one therefore need not be afraid to thoroughly develop.

According to requirements either the quantity of edinol or the quantity of bromide may be varied and thus a more or less rapid development effected. The use of more bromide increases the contrast of the negative and yields a more brilliant print. The 10 per cent. potassium bromide solution may be replaced by a 10 per cent. sodium bicarbonate solution. The action of edinol is easily restrained by the addition of sodium bicarbonate.

One can develop several negatives in the same bath and at the same time control the development either by adding a little edinol or a little of the alkaline solution or even by slightly prolonging the development.

When returning from an excursion without having a record of any of the pictures taken, or when having to develop a large number of plates of different exposure, one can avail oneself very advantageously of the two tray mode of development, recommended by Mr. Audra. Edinol is especially adapted for this kind of development.

The following ingredients are to be put in the first tray :

Water	7 oz.
Sulphite of sodium (des.).....	90 gr.
or Acetonesulphite (Bayer).....	60 gr.
Edinol	30 gr.
10 per cent. solution of bromide from 10 to 20 drops.	

and in the second tray :

Water	7 oz.
Potassium carbonate (dry).....	180 oz.
10 per cent. bromide solution from 10 to 20 drops.	

Before developing pour about 2 drams of the bath from the first tray into the second, or *vice versa*.

I do not deem it necessary to give all the details of this kind of development, as everybody knows that one passes the plate alternately from the first bath containing the developing agent to the other, according to the progress of development.

Potassium salts are not the only alkalies which may be used with edinol ; sodium carbonate, caustic soda, caustic lithia, lithium carbonate, acetone, etc., may also be employed.

Why should edinol be preferred for developing plates ?

Because, while possessing all the qualities of pyrogalllic acid, edinol does not stain the gelatine, nor the fingers, and in addition to these advantages keeps much better. One can develop a great number of negatives in a freshly prepared bath without the least discoloration of the solution. As compared with hydroquinone, edinol gives more softness and transparency to the shadows, even of snapshots. One may, however, if desired, produce negatives of great contrast without danger of fog, which is a great advantage for line work negatives, and for reproductions of drawings or engravings. One need not be afraid to develop too far, for edinol negatives, in contradistinction to negatives made with certain other developers can easily be reduced with the usual reducers.

Gaslight and Bromide Papers.—The employment of edinol is especially useful for the development of bromide and gaslight papers. It replaces advantageously diamidophenol and the popular mixture of metol and hydroquinone. It produces neither fog nor stain, but yields pure whites and intense blacks—real blacks, not those greenish blacks which disgust so many amateurs with bromide prints. All papers yield good prints with edinol and one invariably obtains excellent results. As there is no danger of fog, it is not necessary to make an exact exposure, because one can regulate the development of papers in the same manner as the development of negatives. The following two stock solutions which keep very well are especially recommended:

SOLUTION A.

Water	1 qt.
Sodium sulphite (des.)	2 oz.
Edinol	150 gr.

SOLUTION B.

Water	1 qt.
Potassium carbonate (dry)	2 oz.
For developing take:	
Water	4 oz.
Solution A	1 oz.
Solution B	1 oz.

And add 2 to 10 drops of the 10 per cent. solution of potassium bromide.

However, with edinol it is not necessary, as with diamidophenol, to add as much bromide. If at the first trials the development is too quick, one may either dilute the bath or use less of solution B, or, what is preferable, reduce the time of exposure. It goes without saying that one would have to act reversely, if the picture appeared too slowly. When reproducing engravings or drawings better blacks may be obtained by diminishing or even omitting any addition of bromide, provided that the exposure was not too long and that the high lights of the negative are dense enough to yield good contrast.

Some amateurs prefer to prepare the developer just when they need it. This is very easy to do with edinol, as it is so readily soluble. All that is required is to put the following chemicals in the order indicated into a glass, stirring with a glass rod after the addition of each ingredient:

Water	7 oz.
Sodium sulphite (des.)	45 gr.
Edinol	8 gr.
Potassium carbonate (dry)	45 gr.
10 per cent. solution of potassium bromide 2 to 10 drops.	

Since I have been using edinol I have observed that in combination with sodium sulphite it yields bluish blacks that are very agreeable. By employing acetonesulphite it is possible to obtain different tones of blacks, varying from grayish black with 15 grains to each 4 ounces of bath, to brownish black or sepia, with 75 grains. In order to obtain warm brown or sepia tones one must first over-expose the print and restrain the developer with acetonesulphite and potassium bromide.

The development of papers with edinol is carried out in the same manner as with any other developers; that is to say, one must be careful to first moisten the print with water and remove any air bubbles either with a pad of wadding or with a fine hair brush. The well moistened print is then placed into the developer and one proceeds the same as when developing plates. Are there any reasons why the development of paper should be different from that of plates? Are we not dealing with bromide of silver and gelatine? The support for the coating is the only thing that differs. With most developers care must be taken:

1. To prevent chemical fog (a gray veil which covers the entire print, even in the extreme high lights and unexposed portions), which is caused by the developer not being mixed in correct proportions.

2. To prevent the staining of the paper or gelatine which occurs if the development is too prolonged or if the print is not fixed immediately after its removal from the developer.

To overcome this tendency bromide or sodium sulphite has to be added to the developer and the exposure must be as nearly correct as possible. Since a freshly prepared edinol solution does not fog nor stain (though the solution might be of a reddish color) one can conduct the development of paper in the same manner as that of negatives. Perhaps it might be said against this method of development: "You do not mention the blisters that form when such strongly alkaline developers are employed." My answer is that in the first place these blisters only form with certain papers. Moreover, it is not necessary to use with edinol as much alkali as with other developers, and it is also possible to leave out bromide altogether. Edinol, indeed, requires no more potassium carbonate or other alkali than metol-quinone, etc. One can also avoid these blisters by keeping all the baths at a uniform temperature and by using a fixing bath containing sodium bisulphite and alum, as has been advised by our lamented colleague Lamy:

A. Water	26 ozs.
Hypo	5 ozs.
Sodium bisulphite.....	1 oz.
B. Water	13 ozs.
Powdered alum.....	2 ozs.

After dissolving separately, mix A and B, filter and use.

With papers which have no tendency to blister the following fixing bath is recommended:

Water	1 qt.
Hypo	6½ ozs.
Acetonesulphite (Bayer)	120 gr.

Lantern Slides.—Finally, we have to discuss the development of lantern slides and transparencies in both black and in warm tones. What quali-

ties in a developer yield the best results for this kind of work? The first and most important point, I believe, is: 'The developer must show no tendency to fog or stain; second, the high lights must be strong and brilliant, but, at the same time perfectly transparent; third, the shadows must be soft, clear and full of detail. Edinol fulfills all of these requirements and, as it possesses considerable latitude in manipulation, it should be of great service to those who are interested in this branch of the art. If one desires slides with black tones, the formula given for paper or for plates may be used. All the formulæ above mentioned, freshly prepared, yield very good results when instructions given by the manufacturers of plates regarding exposure and the other manipulations are followed. To obtain warm tones on sides or transparencies, I employ an old bath, which I used in making my first experiments with edinol about three months ago. It is of a most pronounced nut-brown color, contains a great deal of bromide, and gives most beautiful results without staining the gelatine. Once in a while I reinforce it by adding either a little fresh bath, *i. e.*, what is left over after developing plates, or by adding a little edinol powder with some potassium carbonate and bromide solution. My bath contains also a trace of ammonium carbonate. "But," one might object, "not everybody has an old edinol bath and three months is a rather long time to wait before making experiments." This is very true, and I merely wished to point out that old edinol baths may be utilized just as well as old hydroquinone baths. If an old bath is not at one's disposal I would advise the following solution which can be prepared very easily, yields excellent results, and will grow more valuable with age and use:

Water	7 ozs.
Sodium sulphite (des.)	75 grs.
or Acetonesulphite (Bayer)	45 grs.
Edinol	15 grs.
Potassium carbonate (dry)	45 grs.
Potassium bromide	15 grs.

The tone of the slide may vary according to the time of exposure or the brand of plates employed, but after the first few trials one will know all about that. If the bath works too slowly, add a little edinol powder and a little potassium carbonate. Certain manufacturers recommend the use of ammonium carbonate as an alkali. It will be sufficient to add 8 to 30 grains to each 4 ounces of bath, or simply 1 to 2 drops of ammonia water. It sometimes happens that, in order to obtain certain effects or in consequence of over-exposure or over-development, it is necessary to reduce the intensity of the slide. For this purpose any reducer such as ammonium persulphate, Farmer's solution (potassium ferri-cyanide and hypo) may be used. The reduction of a slide developed with edinol is easily accomplished and does not require any special care.

We have now shown that edinol may be employed for all kinds of photographic work and that I was right in saying that with this developer one can practically obtain any desired result. A few experiments on the lines above indicated will prove this statement to all who wish to try this new product.

A. VILLAIN, Chemist,
Secretary of the Society for Photographic Studies, Paris.

ON THE DESTRUCTION OF PHOTOGRAPHIC FOG, CALLED "DICHROIC FOG."

A. AND L. LUMIERE AND A. SEYEWETZ.

IN a special study which we shall communicate at a later date to the Berlin Chemical Congress we have determined the various causes of photographic fog known as dichroic.

As is known, this particular fog is characterized by fluorescence of the organic gelatine substratum of photographic plates after development and fixation. The coloration thus shown varies remarkably according to the many different circumstances of its production. By transparency it is reddish, red-orange, red, or violet, whilst its appearance by reflection is either yellowish-green, green, blue, or greenish-yellow. Further, on examination by reflected light the negative is opaque, and appears to be incompletely fixed. Our exhaustive study of the nature of dichroic fog and its cause has revealed to us the fact that this fog arises sometimes during development and sometimes during fixation. It occurs during development when the developer contains a solvent of silver bromide, such as hyposulphite of soda, ammonia, potassium cyanide, etc. A very small quantity of hyposulphite of soda is sufficient to produce the phenomenon.

Dichroic fog is produced during fixation when the bath contains a small quantity of the developer mixed with sulphite of soda in developers such as diamidophenol, and also by an excess of alkaline carbonate in alkaline developers. Finally, we observe that all conditions otherwise equal, the following causes most favor the production of this fog:

Under-exposure, substances increasing the power of the developer, such as soda sulphite and the alkalies, or, if the fog form during development, a prolonged period of development.

We have ascertained that dichroic fog contains no bromide of silver. It is doubtless formed by an argentic compound, very rich in silver, and containing a small quantity of organic matter arising from the substratum. Its composition must, we think, resemble that of the substance known as collargol.

This argentic compound is obtained by treating a soluble silver salt with a developer in the presence of colloidal organic matter, and shows properties nearly allied to those of dichroic fog. M. Hanroit has recently demonstrated* that collargol which contains about 87 per cent. of silver gives by electrolysis an acid compound insoluble in water containing all the silver and the organic matter. This body which settles at the positive pole readily dissolves in alkalies and regenerates collargol.

If dichroic fog be not pure silver, it undoubtedly contains a very large proportion of that metal, and gives the chemical reactions as pure silver.

We have shown that by different methods of treatment we can transform silver by the use either of sulphur or oxydants, which, acting on

* Communications to the Academy of Sciences, 1903, p. 680.

dichroic fog, destroys the strong coloring, and leaves the much fainter tints of sulphur or oxide of silver. It is probable that in this manner the combination of silver and organic matter is destroyed.

On the base of the preceding observation we have essayed the destruction of dichroic fog by the following different means:

A. Transformation of the silver of the image and the silver of the fog into a black compound such as sulphur.

B. Treatment of the negative by the usual solvents of silver. (Reducers.)

C. Transformation of the silver of the image and of the fog into an insoluble compound capable of development.

D. Treatment with oxydants.

Before discussing the various means employed to eliminate dichroic fog, we would remark that fog formed in development is far more superficial than that formed during fixation; the causes of this phenomenon we have set forth in our communication above mentioned. We designate as surface fog that formed during development, and as deep seated fog that formed in the fixing bath. These two kinds of fog will show different results when treated with the reagents that we shall examine, some of which act more readily on the surface, others showing more activity in the deeper seated portions of the coating.

(A) ALTERATION OF THE ARGENTIC MATTER OF DICHROIC FOG BY MEANS OF SULPHUR.

In treating negatives showing dichroic fog by sulphuretted hydrogen or alkaline sulphites (soda, potassium, or ammonia sulphite), we see that the coloration becomes blackened little by little, but very slowly, probably by reason of the formation of sulphite of silver. The action is extremely slow with sulphuretted hydrogen, notably quicker with alkaline sulphites, and above all with metabi-sulphites, and the alkaline action of these compounds affecting the gelatine tends to strip the plate if the dichroic fog is sufficiently dense to necessitate prolonged treatment.

We find that with nascent sulphuretted hydrogen sulphurization is more rapidly attained than with a solution of the same, this, too, without the inconveniences of alkaline sulphites. This is shown by adding a small quantity of tartaric or citric acid to a solution of soda hyposulphite.

By this method a film of sulphur is deposited on the surface of the negative, which, however, is easily removed by sponging with a piece of cotton wool. We see by this method that the sulphurization of the dichroic fog has been accomplished more readily on the surface than in the deeper portions of the coating. We have been able also to determine the most useful strengths for the sulphites in order to destroy dichroic fog without affecting the gelatine coating.

With sulphuretted hydrogen a saturated aqueous solution to which has been added an equal quantity of water has given the best results.

With ammonium sulphite a solution composed of equal parts of water and neutral ammonium sulphite (yellow ammonium sulphite saturated with sulphuretted hydrogen and by an equal volume of ordinary ammonia added) is the most favorable for the destruction of fog.

A five per cent. solution of liver of sulphur gives similar results to

those shown by ammonium sulphite. Soda sulphite may be used in solutions saturated with sulphuretted hydrogen (sulphydrate of sulphur) and an equal volume of water added. Neutral crystallized sulphur cannot be used by reason of its caustic action and consequent effect on the gelatine.

(B) TREATMENT OF THE NEGATIVE BY ORDINARY SOLVENTS OF SILVER
(REDUCERS.)

We have tried the effect of various direct solvents of silver used as reducers, giving results as follows:

Cerium sulphate clears the dichroic fog, but at the same time reduces the image so that in removing the fog the image is lost.

Potassium ferricyanide and soda hyposulphite acts as does cerium sulphate.

Permanganate of potash and sulphuric acid (Namia's formulæ) give similar results to the preceding.

Potassium bichromate and sulphuric acid in like manner destroys both dichroic fog and the image.

Ammonia persulphate, slightly acidulated with sulphuric acid, as is known, is used for the reduction of negatives, and while not perceptibly attacking the surface portions of the image, acts chiefly on the denser parts, thus showing a more energetic action in the deeper layers of the coating. This valuable property renders ammonia persulphate particularly suitable for dissolving the silver contained in the deep dichroic fog.

Ammonia persulphate readily removes dichroic fog formed in the fixing bath without appreciably affecting the image, if the precaution be taken to plunge the negative in a solution of either soda sulphite or bisulphite as soon as the fog has disappeared. Dichroic fog formed in development (surface fog) is also equally well destroyed by the use of ammonia persulphate, but as this lies but little in the deeper portions of the coating the image will be affected in parts. Therefore, by the use of acidified ammonia persulphate, provided the fog be sufficiently dense, it is possible to ascertain whether the fog has been formed in development or fixation.

The best results are shown by the use of a three per cent. solution of ammonia persulphate, stronger solutions apparently having no more rapid action in the removal of fog.

(C) TRANSFORMATION OF THE ARGENTIC COMPOUND OF FOG INTO A SUB-
STANCE CAPABLE OF DEVELOPMENT.

We have endeavored to transform the silver of the image and at the same time that of the fog into a compound insoluble in water, but capable of easy retransformation into metallic silver under the influence of developers. Such are, chloride of silver, treating the image by perchloride of iron, bromide and iodide formed by the action of bromine or iodized water on the image, ferricyanide obtained with ferricyanide of potassium.

All these substances remove dichroic fog, but the deposit of reduced silver resulting from the formation of these insoluble salts of silver acted on by a developer is more opaque than the original deposit. It then pro-

duces a fog of reduced silver of a yellowish color, more or less opaque, and unfavorable to the taking of prints. These processes, therefore, are not to be recommended.

(D) TREATMENT BY OXYDANTS.

Finally, we tested the action of oxydants for the purpose of transforming the silver of the image, and at the same time that of the fog into oxide of silver or any other compound oxide whose faint opacity would overcome the inconveniences caused by dichroic fog during printing. To this end we examined the action of ammonium persulphate neutralized by a weak alkali. Thus neutralized, persulphate of ammonia dissolves no more of the silver of the image than when it is slightly acid.

Therefore, in its neutral state it may be employed in the destruction of hyposulphite of soda without danger to the image, its action on which is shown by a slight intensification. This intensification may be due to the formation of a silver oxide, but it is not the normal oxide, being insoluble in ammonia.

We have found that neutralized ammonium persulphate has no appreciable effect on dichroic fog, in which respect it is similar to iodides and iodic acid, and neutralized or acidulated oxygenized water. The only oxydant action which has seemed interesting to us (without having been able up to the present to elucidate the exact theory) is produced by neutralized permanganate of potash.

ACTION OF PERMANGANATE OF POTASH ON DICHROIC FOG.

When a solution of permanganate of potash at 1-1000th is applied to an image showing dichroic fog the permanganate totally dissolves in a few seconds this fog, whatever its density. It deposits in the gelatine coating oxide of manganese; the latter dissolves upon the negative being immersed in a solution of sodium bisulphate, and all trace of the fog vanishes without weakening of the image. We have found, however, that the color of the image is modified, becoming browner. On the other hand, on examination of the dry image by reflection, it will be seen that in the parts corresponding to the densest deposits of reduced silver, a mirror-like reflecting surface will be shown, which in no way alters the relative value of the half-tones when the image is examined by transparency.

The action of permanganate is equally apparent on fog formed during fixation as on that arising in development, and this process appears to be the most effectual of all those that we have examined up to the present.

CONCLUSIONS.

Amongst the various processes which we have indicated for the destruction of dichroic fog preference may, therefore, well be given to the three following:

- (1) Treatment of the negative by ammonium persulphate, followed by fixing in bisulphite of soda, which is applicable only to dense fog.
- (2) Transformation of the silver into sulphur by sulphuretted hydrogen (hyposulphite of soda with citric acid), which is in particular applicable to fog formed in development—*i. e.*, that which is unable to

absorb the persulphate of ammonia without at the same time dissolving the image.

In cases of dense fog, it is possible by these two processes to ascertain whether such fog has occurred in development or fixation.

(3) Finally, neutralized permanganate of potash followed by treatment by bisulphite of soda, applies to all cases, and is the process giving best results.

MAURICE MAETERLINCK ON PHOTOGRAPHY.

Intended for the third number of *Camera Work*, but too late for insertion except as an insert.

By the courtesy of ALFRED STIEGLITZ.

I BELIEVE that there are observable the first steps, still somewhat hesitating but already significant, toward an important evolution. Art has held itself aloof from the great movement, which for half a century has engrossed all forms of human activity in profitably exploiting the natural forces that fill heaven and earth. Instead of calling to his aid the enormous forces ever ready to serve the wants of the world, as an assistance in those mechanical and unnecessarily fatiguing portions of his labor, the artist has remained true to processes which are primitive, traditional, narrow, small, egotistical and over-scrupulous, and thus has lost the better part of his time and energy. These processes date from the days when man believed himself alone in the universe, confronted by innumerable enemies. Little by little he discovers that these innumerable enemies were but allies and mysterious slaves of man which had not been taught to serve him. Man, to-day, is on the point of realizing that everything around him begs to be allowed to come to his assistance and is ever ready to work with him and for him, if he will but make his wishes understood. This glad message is daily spreading more widely through all the domains of human intelligence. The artist alone, moved by a sort of superannuated pride, has refused to listen to the modern voice. He reminds one of one of those unhappy solitary weavers, still to be found in remote parts of the country, who, though weighed down by the misery of poverty and useless fatigue, yet absolutely continue to weave coarse fabric by an antiquated and obsolete method, and this although but a few steps from his cabin are to be found the power of the torrent, of coal and of wind, which offer to do twenty times in one hour the work which costs him a long month of slavery, and to do it better.

It is already many years since the sun revealed to us its power to portray objects and beings more quickly and more accurately than can pencil or crayon. It seemed to work only its own way and at its own pleasure. At first man was restricted to making permanent that which the impersonal and unsympathetic light had registered. He had not yet been permitted to imbue it with thought. But to-day it seems that thought has found a fissure through which to penetrate the mystery of this anonymous force, invade it, subjugate it, animate it, and compel it to say such things as have not yet been said in all the realm of chiaroscuro, of grace, of beauty and of truth.

FIVE THOUSAND DOLLAR KODAK PRIZE COMPETITION.

Kodak, Limited, of London, England, in conjunction with the Eastman Kodak Company, Rochester, N. Y., announce another great prize competition in which 404 cash prizes, aggregating \$5,000, will be distributed. Coming so soon after their other great prize contest, the thanks of all photographers are due to the Kodak Company for the healthy stimulus thus given to the art and they well deserve the success which attends their enterprise and generosity.

The competition will be in three sections, the first, KODAK NON-CURLING FILM, being divided into four classes:

KODAK NON-CURLING FILM, being divided into four classes:

Class A.—63 prizes to the value of \$750, for pictures $3\frac{1}{4} \times 3\frac{1}{4}$ and under, including 1A F. P. K.

Class B.—63 prizes, to the value of \$750 for pictures $3\frac{1}{4} \times 4\frac{1}{4}$ and under, including No. 1 Panoram.

Class C.—43 prizes, to the value of \$250, for pictures taken with the No. 1 or No. 2 Brownie camera.

Class D.—40 prizes, aggregating \$750, for enlargements, any size, from Kodak N. C. Film negatives, on any Eastman developing paper.

All pictures sent in for competition must be from negatives made with a Kodak on Kodak N. C. Film, and must be printed on one of the following named papers: Velox, Dekko, Azo, Solio, Kloro, Albuma, Lithium, Aristo Platino, Aristo Junior, Aristo Blue Label, Aristo Self-Toning, American Platinum, Eastman Bromide Paper, Nepera Bromide Paper, Photo-Materials Bromide Paper, Eastman's Sepia Paper, Eastman's Ferro-Prussiate Paper, W. D. Platinum or other paper manufactured or sold by us.

Prints only are to be sent in; not negatives.

Prints must be mounted, but not framed.

The title of the picture, with the name and address of the competitor, class entered for, and the name of the printing paper used for the picture, must be written legibly on the back of the mount.

The films must have been exposed by the competitors; but it is not necessary that competitors finish their own pictures.

No competitor may enter less than three prints for competition, or one enlargement; no competitor will be awarded more than one prize in each class.

All competing prints will become the property of Kodak, Limited.

The negatives from which the prize winning pictures are made, to become the property of Kodak, Limited.

KODOID PLATE COMPETITION.

Class A.—75 prizes, aggregating \$1,050, for not less than three negatives on any size pictures from any size negatives made on Kodoid plates.

Class B.—24 prizes, to the value of \$450, for sets of three pictures of the same subject best illustrating the orthochromatic advantages of the Kodak plates.

Prints only are to be sent in; not negatives.

In Class B the first picture must be from a negative on a "SEED" PLATE not orthochromatized; the second from Kodoid Plates used without a color screen; the third from a Kodoid Plate used with a color screen.

Prints must be mounted, but not framed. The three prints for Class B should be on one mount, with description appended to each.

The title of the picture, with the name and address of the competitor, and the name of the printing paper used for the picture, must be written on the back of the mount.

The plates must have been exposed by the competitors, but it is not necessary that competitors finish their own pictures.

Each competitor must send in not less than three prints for competition, but no competitor will be awarded more than one prize in a class.

All competing prints will become the property of Kodak, Limited. No prints will be returned.

The negatives from which prize winning pictures are made, to become the property of Kodak, Limited.

KODAK DEVELOPING MACHINE COMPETITION.

Class A.—48 prizes, amounting to \$500, for bands of six or twelve negatives, taken with the Pocket Kodak, Brownie cameras and Nos. 0, 1 and 1a F. P. K. and No. 1 Panoram.

Class B.—48 cash prizes, amounting to \$500, for bands of six or twelve negatives taken with any other kodak.

The entries for this competition must consist of uncut bands of six or twelve exposures, which must have been exposed and developed by the competitor. No repetition of exactly the same subject upon the same band of film will be eligible. All competing films will become the property of Kodak, Limited.

All entries must be sent, fully prepaid, and must reach the Eastman Company's office by June 10, 1904, addressed as follows:

EASTMAN KODAK CO.,
(Kodoid Plate) Competition, Rochester, N. Y.

Entries so received will be forwarded by us to London and will be exhibited and judged in the Kodak Gallery, 40 West Strand, W. C.

NOTES.

STRIPPING GELATINE NEGATIVES.—The following communication, sent to *The Process Photogram* by C. Yeck from Bombay, we reproduce without trial, especially as the editors give it the premier place in their October number. We have often used both caustic and carbonate of soda for the removal of films, but never when the object was to save them; but we give it for what it is worth, trusting that some one with more time than is at our disposal will give it a trial.

"In a recent number of *The Process Photogram* was a short article on lifting the negative film. I have tried all varieties of formulæ—Hübl, Albert, German, English, American, Italian—and come to the conclusion that all are uncertain. The processes are troublesome, the film expands, etc., etc. And now I will explain how I strip the film easily and safely, without expansion or risk.

"The following is the solution: Water, 500 c.c.; washing soda, 300 gm.; caustic soda, 15 gm.; liquid ammonia, 10 c.c. All being dissolved, place in a dish and proceed thus: Wet the negative merely under the tap and immerse for ten minutes in the solution. At the end of the time remove and lay, film up, on a flat table, or better, stout glass covered with a cloth to prevent the plate slipping about. Now take blotting paper or clean linen or other clean material and wipe off all moisture until absolutely all greasy exposure has disappeared. Do not be afraid: the film is hard, and should be wiped until the faulty appearance entirely goes. Now quickly cut round the edges (or you can do so before commencing the operations), and lift one corner with the blade of a knife. The film will easily come off the

plate. Put in a clean book and use whenever you like. The film should contain at time of stripping very little moisture.

"I am sure that readers will at first laugh when they read the above account. Soda, caustic soda, ammonia, they will say, are all substances which soften gelatine. I laughed myself when a Russian gentleman brought the process to my notice, but it is a fact."

Speaking of stripping reminds us of a good idea of *The Photogram* that might with advantage be adopted by some of us here. It is the getting up of lecturettes and demonstrations, the latter including the furnishing of apparatus and material, for the use of provincial photographic societies and camera clubs, and to be had for the asking. The first, or at least the first that we have noticed is a demonstration of how easily "to transfer a negative from its glass" accompanied by lantern slides, all necessary apparatus and material, and a leaflet of instructions. The idea is excellent and should bring grist, in the shape of additional subscribers to *The Photogram* mill.

METOQUINONE, the name given by Lumiere to the new combination of hydroquinone and metol, having been used for a considerable time by the Vanguard Co. for one of their preparations, the new developer will henceforth be known as "Quinomet," a more euphonious title, in our opinion. A rose by any other name, etc., and quinomet is proving itself an excellent all-round developer.

PRESERVING THE CHEMICALS.—Dr. Jos. Hicks, in an article on "Home-Made Conveniences," in *The Camera*, gives the following hint which is worth making a note of. He says: "I use Mason's preserving jars, pints, quarts, and two quarts, for containing my photographic chemicals. They are cheap, and there is nothing better. After using my sodium sulphite, I take a piece of newspaper, twist it up, set one end on fire and plunge it into the jar, holding it there for a few seconds, withdraw it, and quickly screw on the cap. The heat from the burning paper drives out the air, which would otherwise remain in the jar. By doing this the sodium sulphite will retain its good qualities for a very long time; in fact, until all is used."

DEVELOPMENT IN SUBDUED LIGHT.—A writer in *The Amateur Photographer* says that Rosolic Acid or corallin is an excellent coloring matter for the developer, coloring it sufficiently to admit of developing in diffused or ordinary gas light without staining the gelatine. It is easily soluble in the alkaline developer, and with ordinary precautions plates the most sensitive may be developed in diffused light without a trace of fog.

REDUCTION OF THE IMAGE BY HYPO.—Frank M. Sutcliffe has been trying to settle the question as to whether or not the image is reduced in the fixing bath, and the answer is both yes and no. He finds that while a negative may remain in a fresh or unused solution of hypo for many hours without change or the least indication of action except the fixing, a similar negative placed in a bath that has been considerably used will have its image completely dissolved in less than twelve hours. The lesson is obvious, hypo is cheap and should never be used to fix more than one batch of plates.

OUR PORTFOLIO.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination should be sent to Dr. John Nicol, Tioga Centre, N. Y.

1658. J. M. BROOKS.—“Group of Kids” is an excellent photograph of five children grouped in the worst possible manner, violating in every case the one rule especially applicable to group-ing; that no two heads should be



placed in a verticle line. Here they are arranged in pairs, each with the one head immediately above the other. Although the photography is good it might have been better, the development having been carried so far as to make sky and white dresses almost white without detail or the light and shade in the folds of the drapery. This over-development has been made necessary by a too short exposure, and long as the development has been it has not been enough to bring out anything on the legs or feet of the group. With an exposure about twice as long the detail in the shadows would have come before either sky or white dresses

were over done as they are here. Never forget that the old advice to expose for the shadows is as good to-day as when first used, and that you cannot make a good photograph in any other way.

1659. H. W. D.—“South West Harbor, Mt. Desert” is considerably better than most attempts of the kind, the water and distant hills, with real atmosphere between being very nearly as they should be. The large mass of almost white sky, however, is a serious fault, especially as it might have been much reduced by a higher horizon line with decided advantage. Unless for a very especial cause, which does not obtain here the sky line should never be in the middle, always a little nearer the top or the bottom. Half an inch trimmed from the sky improves this very much; and the printing in of a few clouds would do so still more. See “Answers.”

1660. F. E. WEEKS.—“Daises,” three girls in a field of beautifully photographed daises, is of almost perfect technique, an almost perfect photograph but without any attempt at giving it a flavor of art. The girls are scattered diagonally across the plate, all looking in the same way, and not with any apparent connection. Why not have made them into a pretty little group, with some common point of interest? As it is, they are not even showing any particular interest in the flowers, looking rather as if asleep, overcome in a field of poppies. Your photography is all right,



and you should turn your attention to the study of art. Photography as a record of fact, which this is, is of great value, but when fact can be combined with art the combination more than doubles its value.

1661. HARRY BRACONIER (as near as we can guess it).—The unnamed print is just an average snapshot of a subject hardly worth wasting a film on and hardly worth criticizing. It has been so much under-exposed that development had to be pressed till the sky in the negative was opaque and consequently in the print is simply white paper, while the trees in the distance are as black as paper can be made. Snapping with a hand camera by those who do not know its limitations may be fun, but it is not, in the true sense of the word, photography, and you will never become a photographer in the true sense of the word till you learn it with a camera on the stand. See "Answers."

1662. JULES A. BOURQUIN.—"The Broken Strap." We regret we cannot find anything to praise in this, another of the thousands of unconsidered snapshots, and it is even worse in its blackness than most of them. It is simply unmitigated black and white, the former being very much in evidence. It really is a pity to see so many that can do better play at photography by snapshotting, when by thought and time exposures they might make pictures that would be a credit to themselves and give pleasure to others.

1663. W. T. SEEK.—"Nasturtia," as we have taken the liberty to title the little picture, would be a credit to one with considerably greater experience, and speaks strongly in favor of "time" development. The figure is placed, or the print trimmed just as it should be, the greater space in front giving the idea of freedom of motion, while the distance between the head and the top conveys the right idea as to size. Then, the child herself has helped you vastly, putting on just the natural expression; just giving herself altogether to the flower without a thought to the camera or the man behind it, a rare thing in a child, especially one of her age. You have done very well, and with such a model you ought to go on doing still better. We congratulate you also on overcoming the tendency



of the mother to dress the child in something like the fashion of the day; the plain frock is simply charming, while the usual befrilled and beflounced so frequently seen and insisted on would ruin any picture.

1664. L. O. STEENROD.—"True Friendship," two men with cob pipes, the one giving the other a light by shaking some of the fire out of his pipe into that of the other, is hardly a subject for criticism except in the matter of technique, and that is fairly good. We cannot say so much of the properties, the carved back chairs being considerably out of keeping with the surroundings. Instead of an open landscape that might, for all that is seen, be fifty miles from a home, the figures should have been seated on a verandah or even in the garden, but in any case the house in some way should have been indicated so as to suggest the desired connection. It is, however, a very

good photograph, and doing so well in the technique you should give more thought to the art part of the business.



1665. G. E. FITCH.—“Building Air Castles” is a portrait of which any one may well be proud. A lady in what may be called morning dress, with a sun-bonnet, the strings of which she toys with while deep in castle building, is in almost every way satisfactory. Leaning easily and naturally against a vertical shaft or post, she has that “far-away expression” that is easier felt than described, but which shows unmistakably that the mind is far from its surroundings. Dressed in white or something very light, the exposure has been such as to give in perfection the light and shade of every fold, while the background of foliage is just of the right tone, and so subdued as to leave the eye free to rest on and admire the figure. The only fault, if fault it be, and we do not like it, although hardly knowing on what ground to condemn it, is the vertical shaft against which she leans. It does not seem to have a mission where it is, and it is rarely pleasing to see anything rising vertically above the head of a figure, while at the same time, taken as a whole, figure and shaft, in this case, seem to get on very well together.

Regarding your question as to “flat-face lighting” and whether we approve of it, we have to say that the artist is a law unto himself in that matter; and that the lighting in the one way or the other depends on circumstances; taste, the object in view, and how best to convey to others the impression the portrait made on him. For your portrait, for example, the front face, or “flat-face,” as you call it, suits better, we think, than would any other method of lighting. But we would strongly advise you not to adopt any particular

method so as to make it a mannerism, but rather deal with each according to its apparent requirements, lighting in whatever way seems most likely to realize your intentions.

1666. HELEN L. GRISWOLD.—“The Blacksmith,” although a somewhat hackneyed subject, affords opportunity for such variety of treatment as to make that scarcely a fault. And the treatment here is good beyond the average, with many points of value, although also with some faults that we should have been pleased to see avoided. Taking the faults first; the figure might have been better placed. While the center of the composition would have been the worst possible place and a little to the right or left of it the best, it is here just a little too near the edge, so much too near as to take from it a little of its importance as the main object of the picture, even half an inch nearer the center would have made a considerable difference. Then, the hand and the hammer; and this in common with almost every blacksmith that we have seen, suggests only *arrested motion*, and the more it is studied the more perfect is the suggestion of rest. But, say, the realists, there is a moment at which the hammer is at rest, a period, short enough certainly, but long enough for the lens to impress it, when the arm changes from the upward to the downward motion. And that is true; but it does not alter the fact that the arm so photographed does not give the desired impression of motion.

But, in this case at least, it is easier to diagnose the disease than to prescribe the remedy; but if, while all else was still if the arm *could* be made to move just enough and no more the desired impression might thereby be conveyed.

We like better, however, to dwell on the beauties of the picture, and they are not a few. The lighting has been especially well managed, made to appear as coming from the two windows only, and, although facing the camera, there is hardly a trace of halation, none indeed that might not have been removed by a little local reduction. Exposure and development have led to truer values than is often secured, while the texture, especially as shown on the horn of the anvil, is what is often aimed at but rarely secured. There is, however, one little high light that we are not

quite sure about, that intended, we presume, to represent the flame from the fire on the forge, and if so it is a mistake both in place and form. The flame from the blacksmith's coal lasts only while the blast is maintained, dying down the moment it ceases, and in any circumstances it would not be so white, so that local reduction would also be an improvement here.

We shall be glad to see the other prints you mention, as we are always anxious for good pictures for our illustrations. "At Evening" in our next.

1667. J. S. CROCKETT—"Reflections" is a fine subject not well photographed. A portion of a lake or river surrounded by foliage with a canoe occupied by one figure filling nearly the whole of the space, and the exposure has been so short that water, unless where direct light has fallen, is simply blackened paper, while the shirtwaist of the figure is unbroken white. From a greater distance so as to include more of the beautiful surroundings and considerably reduce the size of the canoe, and with sufficient exposure to secure something like true values, it might have been made a very fine picture. The black and white here conveys no idea of water, and that it is so is only suggested by the canoe and the surroundings, while with a proper exposure it might have been shown in all its rippling beauty.

1668. L. B. ROBINSON—"Cascade Mountain" is a fairly good representation of a difficult subject, although the foreground deprives it of any claim to pictorial effect. Pictures of such large and bold subjects are rarely effective in such small sizes, and should be enlarged to something like 10x12 when the negative is technically worth it. In

this case the enlargement should include only the mountain, the horizontal lines of the foreground being objectionable. From a technical point of view the print is just a little flat, arising from the development having been stopped just a little too soon, but a slight intensification would obviate that.

1669. H. B. GERMAN—We have kept this unnamed print, a lady standing and apparently looking out of the window, before us for several days trying to get acquainted with it without success. We want to like it, and feel that we ought to like it, and yet the liking does not come. Nor is the reason the black vase on an equally black stand, although that is an objectionable feature in the



composition, and *will* catch and detain the eye when it wants to rest on the figure, as the fault is felt after it is covered up. The window and the indication of what is beyond is equally free from fault, while the lace curtains are unusually well represented, and therefore we are shut up to the figure itself, in which to find the shortcoming. And it is a good figure, well posed, and, at first sight unobjectionable, but further study shows that it is lifeless, not, as is too often the case, even "standing to be photographed." We recognize the honest, earnest effort, and would fain find wherein you have failed as the best means of helping you to success. In a case like this much depends on the model, and over anxiety on her part to be still may have something to do with it; but closer study shows that you are chargeable with sins of both omission and commission. A too short exposure has resulted in false values, hardness and want of texture, with everything not in direct light simply black. The vase on what may be called a pedestal rather than a table, with an exposure sufficient to get it in its true value, might have been unobjectionable, but perfectly black as it is, it forces itself on the attention of the beholder as the one important object of the composition, pushing the figure as it were into a corner.

In spite of its faults, however, there is in it much to admire and much of promise; and you only need to study and think to succeed. We had almost forgotten to congratulate you on having achieved a feat rarely accomplished, photographing a lace curtained window with brilliant light outside without a trace of halation.

1670. ARTHUR LEVINE—"A Tioga County Landscape." For this we have nothing but praise. An $8\frac{1}{2} \times 6\frac{1}{2}$ print, including several miles of landscape in fairly true values and with a satisfactory suggestion of atmosphere, is nowadays as rare as it is beautiful; and you have accomplished it in this. We know the point of view well, it being within an easy drive of our home, and congratulate you on having, in our opinion, selected the point, giving the most beautiful composition in a locality altogether beautiful.

We are especially pleased with this as another confirmation of our oft-

repeated plea for the employment of a lens of long focus, as nothing shorter than the 19 inches with which it was taken could have so satisfactorily placed the various planes of the composition or so well suggested the great distance included. Well also has the foreground been made to play its part, especially the two taller plants, light against dark, in the lower right corner. Nor should we overlook the delicate suggestion of clouds, although we fear they are too delicate to bear the work of the engraver. Altogether it is a picture of which you may well be proud, you have succeeded where so many fail, and for the technique, including the satisfactory perspective, you are altogether indebted to the long focus of the lens. See "Answers to Correspondents."

1671. W. H. BLACAR.—The unnamed print, the corner of a field with cattle in the foreground, is good of its kind, better indeed than nine-tenths of the snapshot variety which have characteristics peculiarly their own, and by which we have learned to recognize them wherever they are seen. It is not only that they are generally underexposed as many time exposures suffer from the same fault; but they also show unmistakably hurry, want of thought, carelessness in fact, arising from the feeling that snapping is easy and plates or even films are cheap. This, so far as the photography is concerned, is an exception except that development might with advantage have been carried a little farther and so given a little needed contrast; but the want of thought and the waiting it would have induced is very evident. Instead of intention in the arrangement of the cattle, they are scattered all over the foreground as if corraled, the idea being intensified by the presence of the man and horse on the right; while the little Jersey on his left is the only animal of the lot that shows interest in the proceedings. Cattle pictures are admittedly difficult, and the only way to make them interesting is to watch and wait till they arrange themselves. While the form of a picture is a matter of taste, we feel as if the long oval which you have given to this handicaps it considerably, and that a long square would have been decidedly more effective. Mt. Desert in our next. See "Answers."

SOCIETY NEWS.

Secretaries of Societies, members or others who read papers at the meetings and who desire a wider audience for their communications are requested to communicate with Dr. John Nicol, Tioga Centre, N. Y.

The Camera Club of New York.

The regular monthly meeting of the club was held on Tuesday evening, October 13, Vice-President Gerrish presiding.

The secretary's report showed a loss, through resignations and non-payment of dues, of about thirty members during the previous six months, and the treasurer's report showed a small balance on hand October 1st, after paying for the heavy expenses of moving and refitting the new quarters. The estimates for the coming six months are that expenses will be met with a good surplus at the end.

The committee on meetings announced a series of club socials to occur, and that Prof. Dwight L. Elmendorf would give an illustrated lecture on Tuesday evening, November 24th, next, for the benefit of the club, at the Carnegie Hall, on Switzerland, showing the ascent of the Jungfrau mountain by moving pictures of his own taking. The club is to defray the expenses of the hall and an admission fee of one dollar to one dollar and a half is to be charged. It is believed there will be a large attendance, as the lecture is one of special interest, and is on a subject that Prof. Elmendorf understands how to treat in an attractive, instructive way.

It was announced that a print exhibit would be on the walls representing the work of Mr. Malcom Stuart for a period of two weeks from October 14th. Mr. Stuart had some very clever pictures, showing careful work. The members were urged to prepare slides for the new set to be contributed to the Interchange during the coming season.

The secretary brought up the matter of the club representation in the 1904 St. Louis World's Fair Exhibition concerning the judging of photographs for the art or liberal art section, and Ocherson on the subject. The ques-

Ocherson on the subject. The question of appointing some one member to act as a judge in prejudging pictures in regard to their art merits or demerits for proper classification was referred back to the board of directors, with power to act as they deemed most fitting. It was announced that test nights for testing slides would begin on Wednesday, October 14th, and continue each week on that evening. The meeting then adjourned.

THE IVES PALLALAX STEREOGRAM.

Following this Mr. Frederic E. Ives, a member of the club, exhibited and explained a new novelty which is said to be patented, called a "Parallax Stereogram," quite remarkable for the curious stereoscopic optical effect produced. Examples were hung around a stand illuminated from behind by an electric lamp. He explained briefly by illustrating on the screen how the effect is obtained. The stereoscopic images from two ends are conveyed by prisms or otherwise upon one plate, through a screen containing about 100 links to the inch, in such a way that the images will overlap each other with the exception of about one-quarter inch displacement and resemble in appearance two heads, one ahead of the other, that is frequently seen on medals. From this negative a transparency may be made by contact on a white opal plate. Over this transparency is placed cover glass ruled in black lines of about 100 to the inch, which are parallel with the lines on the transparency itself. These lines are arranged as they will be opposite the open spaces in the lines on the transparency, and both glasses are clamped together and framed. When the combination is held up to the light and viewed closely a mixture of two images and the lines are noticed, but when it is removed from the eyes about three feet, or at arm's length, and viewed directly in front, the lines disappear to the eye and a wonderfully correct

stereoscopic single image appears in full of rotundity in every detail. If the cover screen is mounted laterally one way with reference to the lines on the picture the image will appear to stand inward from the frame. If the cover screen is mounted, the opposite way the image appears to stand out in front of the frame, so that one could suppose they could put their hand in behind the image and the frame. The illusion is quite striking. The explanation given was that the right distance one eye sees one image around the left side of the line, and the other eye sees the other image on the opposite side of the line, the two then merge together on the retina of the eyes and appear as one. The numerous lines have a tendency to degrade the brilliancy of the picture, hence a strong light is desirable to obtain the best effect. But the result is most pleasing and satisfactory since the true stereoscopic appearance is obtained without the need of looking through a stereoscope.

DR. ELMENDORF'S LECTURES.

The Camera Club of New York has secured Mr. Dwight L. Elmendorf, who, by the way, is an honorary member of the club, to give his famous lecture, "Climbing the High Alps," at the Carnegie Lyceum, Tuesday evening, November 24th. This is the only time this year that this lecture will be delivered and should not be missed.

Mr. Elmendorf has an exceptionally agreeable style of delivery, which, coupled with such colored lantern slides as only Mr. Elmendorf can present, makes it a rare treat.

Furthermore, the series of moving pictures depicting "The Ascent of the Jungfrau" is certainly a daring photographic feat, the presentation of which occupies fourteen minutes.

Akron Camera Club.

The Akron Camera Club held a special meeting Tuesday evening, September 22d, and it was unanimously decided to retain membership in the American Lantern Slide Interchange.

This means that the club and its friends will again enjoy the excellent slides sent out by about forty of the leading clubs of the United States and Canada, as well as some from across the water. There will be a new set at

nearly every meeting this fall and winter.

The committee in charge of the amateur print contest reported several pictures entered, and many more have notified it of their intention of sending prints.

Athens Camera Club.

The Athens Camera Club, the energy and rapid progress of which we have often spoken, has taken the important step of inviting the amateurs of the three counties to join with them in getting up a first-rate exhibition. Entries will only be accepted from amateur photographers residing in Bradford County, Pa., Tioga County, N. Y., and Chemung County, N. Y. No prizes will be awarded, but it is hoped that to have a picture accepted will be considered an honor that should encourage every earnest photographer to submit examples of their work.

The Jury of Selection will consist of Henry P. McCurdy, Harold D. Severson and George F. Sheers. The prints which they accept will be submitted to Dr. John Nicol, editor of the *AMERICAN AMATEUR PHOTOGRAPHER*, who will select from them the fifteen which he considers as possessing greatest artistic merit, which will be honored by being hung in a special class.

For all necessary information application should be made to Irving K. Park, Athens, Pa.

Toronto Camera Club.

We have to thank the secretary of this energetic club for the October "Notes From the Secretary's Desk" which is really the programme for the month, printed on a post-card and, of course, sent to each member. From it we learn that the four meetings are well provided for, including as they do two exhibitions of Interchange slides, one being at an "Open Meeting"; demonstrations of slide making, gum bichromatic printing and platinum developing, and "The new application of films to photography," whatever that may be.

Members are urged to lose no time in the making of slides for the Interchange, and reminded that they must be in New York by the fifteenth of No-

vember; and told that the lantern can be secured, for trial purposes we suppose, by making application in the usual way.

Treasurers of all kinds of clubs and societies seem to find a difficulty in getting in the dues, and the treasurer of the Toronto Club appears to be no exception to the rule, but he has hit on a plan that should bring the mem-

bers to the scratch. Here follows the last paragraph of the card:

"Members will much oblige the committee by promptly paying their annual fees and locker rents, which becomes due October 1. Remember, the fees are now on a sliding scale, according to date of payment, as follows: \$5 up to December 1, then \$6 up to January 1, and after that date \$7.

OUR TABLE.

G. GENNERT informs us that he has engaged Mr. A. K. Boursault to give a series of lectures on "Modern Developers" before photographic conventions and amateur societies and clubs. Any society who would like to have the lecture should communicate with G. Gennert, 26 East Thirteenth street, New York, for the arrangement of dates.

* * *

"THE KORONA AND THE FILM PACK" is the title of an artistic folder issued by the Gundlach-Manhattan Optical Co., which announces that the well-known FILM PACK can now be used with KORONA cameras. By means of this device the field of usefulness of the KORONA is greatly enlarged, and it is thereby converted into a focusing film camera. We advise those who own KORONAS, and those who contemplate the purchase of a new camera, to send to the Gundlach-Manhattan Optical Co. for the new folder.

* * *

MR. J. HARRY HALL, who has many friends in the photographic business, announces that he is now in charge of the photographic department of the Berlin Aniline Works, 213 Water street, New York. No doubt he will be able to supply our readers with small quantities of the ortho-chromatizing dyes manufactured by this concern and answer all their queries in regard to the Agfa specialties.

* * *

MILTON WAIDE's treatise on "One Man Photography" cannot fail to exercise a powerful uplifting influence on the art. Many have already adopted his system throughout the country, with more or less success. One gentleman

writes that at first sight he thought that he had purchased a gold brick, but after becoming acquainted with the contents of the booklet he would not part with the information acquired for \$100. Those who do not practice photography as a profession will find the chapter on the manipulation of developing papers well worth a dollar, and we recommend the treatise to all our readers. In this connection we would also say that Mr. Waide receives a limited number of pupils for individual instruction, and he has already several graduates who speak in the highest terms of his methods of teaching.

* * *

Camera Work.—Long absence from home and irregularity in forwarding mail, must be our excuse for not having noticed the more recent numbers of this unique photographic magazine; unique in its object, in its illustrations, its literary matter and in its get-up. Alfred Stieglitz, while probably the founder and certainly the leader of what has become known as the American School, has stopped considerably short of the lengths to which some of his followers have gone in what was at first met with derision and which, even now, in some quarters at least, is characterized as eccentricity. It has been with the American school as with many other things, the led has far outstripped its leader in certain phases at least, as of all that has been said against the work of others not one disparaging word has ever been said against his.

Mr. Stieglitz is an enthusiast, as all leaders must be, and while he does not care to emulate some of his followers, the extremists of the school, he yet

sees in that class of work sufficient to warrant his throwing his whole heart into its promulgation and encouragement. This he did, first by *Camera Notes*, then the most unique and probably the most expensively got up of all photographic periodicals, and when he found that he could no longer retain the undivided control of it, by founding *Camera Work*, a still greater wonder to all who know anything of photographic journalism.

The first four numbers lie before us now, each mainly devoted to the work of one man, and each containing several illustrations that separately have been sold for many times the cost of the number, or indeed for more, far more than the cost of all four numbers. They are mainly photogravures produced under the direct superintendence of Mr. Stieglitz, a sufficient guarantee that as reproductions of the originals they are the best that can be made. The first, which we noticed when it appeared, deals with the work and genius of Gertrude Kasebier; and the second with that of Eduard J. Steichen. While in the latter there is much, such as "Dawn-flowers" and "Dolor," that we do not understand; and consequently cannot appreciate; although doubtless the fault lies with us rather than with the work, as we believe that we see in true works of art only what we bring to it; there is also much, such as his "Rodin" and "Bartholome" that acts as an inspiration; taking us back again and again, each time with renewed pleasure, and, we hope, profit. Hardly less interesting is the literary matter, especially that concerning the work itself, but they should be studied together so that the one may throw the necessary light on the other. On another page, however, will be found an article by the well known artist, Maurice Maeterlinck, written for this number but arrived too late to be included, and appeared as an insert. It may be said to be a plea for the employment of photography by the artist and an appreciation of photography as a means of producing works of art.

Numbers three and four, which complete the first volume, deal with Clarence H. White and Frederick H. Evans, one of Great Britain's foremost architectural photographers; along with such appreciative notices of the work and workers that cannot fail to

advantageously influence all who read them. The "White" number, in addition to the five thoroughly representative examples of what may be called the titular work, contains characteristic examples of that of J. F. Strauss, J. T. Keiley, A. L. Coburn and Alfred Stieglitz, the latter an exquisite "Street Scene" said to be a design for a poster, but which as a picture we like almost as well as anything that he has done. The "Evans" number hardly, in our opinion, shows the author at his best, but the examples show better than anything that we have seen how architecture may be made pictorial in the highest sense of the term; while George Bernard Shaw's "Appreciation" of him is both interesting and educational. The number also contains pictures by A. E. Becher and Alfred Stieglitz, the latter a wonderful example of how to make a picture of the most unlikely material, being neither more or less than the much talked of "Flat-iron" building in New York.

While we do not agree with all that is said in *Camera Work* and cannot bring to some of its illustrations that which would enable us to understand them, we thoroughly appreciate the singleness of purpose of its editor in spending and being spent on its production. That purpose is the advancement of photography as a means for the production of art as he and those whom he has gathered around him see it. In this connection it is matter for regret that some of our contemporaries with no higher claim to a knowledge of art than their neighbors, continue to belittle both *Camera Work* and the work of the Photo-Secession; knowing at the same time that both have met with a high degree of appreciation wherever they have found their way, and that too by artists of the highest standing.

Camera Work is a missionary enterprise, its object being to lift photography out of the rut of reproduction into the realm of the individuality of its controller; and to lead those who can now only understand a record of fact to the higher level of art appreciation. With this double object in view, and carried out so well as it is done, *Camera Work* should appeal to and be in the hands not only of the picture maker by photography, but also every one who desires to acquire a knowledge and appreciation of true art. We

understand that there are a few sets still on hand, and the best advice we can give to those who so often have asked us as to the best means of acquiring just the knowledge that they are meant to give, is to secure a set at once and subscribe for those that are to follow.

* * *

THE PHOTO-SECESSION.—The following circular, issued with the third number of *Camera Work*, will show better than anything that we could say the nature and intentions of this interesting association, and is inserted in the hope that those of our readers who are interested in the pictorial phase of the art may either as Fellows or Associates, do what they can to help on the good work.

So many are the inquiries as to the nature and aims of the Photo-Secession and requirements of eligibility to membership therein, that we deem it expedient to give a brief résumé of the character of this body of photographers.

"The object of the Photo-Secession is: To advance photography as applied to pictorial expression; to draw together those Americans practicing or otherwise interested in the art, and to hold from time to time, at varying places, exhibitions not necessarily limited to the productions of the Photo-Secession or to American work.

"It consists of a *Council* (all of whom are Fellows); *Fellows* chosen by the Council for meritorious photographic work or labors in behalf of pictorial photography, and *Associates* eligible by reason of interest in, and sympathy with, the aims of the Secession.

"In order to give Fellowship the value of an honor, the photographic work of a possible candidate must be individual and distinctive, and it goes without saying that the applicant must be in thorough sympathy with our aims and principles.

"To Associateship are attached no requirements except sincere sympathy with the aims and motives of the Secession. Yet, it must not be supposed that these qualifications will be assumed as a matter of course, as it has been found necessary to deny the application of many whose lukewarm interest in the cause with which we are so thoroughly identified gave no promise of aiding the Secession. It may be

of general interest to know that quite a few, perhaps entitled by their photographic work to Fellowship, have applied in vain. Their rejection being based solely upon their avowed or notoriously active opposition or equally harmful apathy. Many whose sincerity could not be questioned were refused Fellowship because the work submitted was not equal to the required standard. Those desiring further information must address the Director of the Photo-Secession, Mr. Alfred Stieglitz, 1111 Madison Avenue, New York.

Photo-Secession Circular No. 3, the October issue, lies before us, telling of much good work that is being done. From it we learn that the *L'Effort*, a select circle in Brussels, having seen the loan collection in the Salon of the Photo Club de Paris, cabled a request that it be permitted to hang the same collection in its annual exhibition, a request, which in view of its high standing and aims, was cheerfully granted. At the International Jubilee Exhibition in Hamburg there were shown some 150 frames of American work, concerning which Ernst Juhl, the president of the Hamburg society, acknowledges that his expectations of American work had been far surpassed, and that it was another triumph for the country. Collections are being prepared for the Salons of San Francisco and Chicago, but we regret that the Council did not see its way to comply with the request of the Royal Society of London to contribute to its jubilee representative loan collection.

Nor will the Photo-Secession be represented at the St. Louis Exposition for reasons that appear to its Council satisfactory. But on that point we shall let the circular speak for itself.

"Having been approached by the authorities of the St. Louis Exposition upon the subject of the representation of pictorial photography at the forthcoming World's Fair, the Director has been in active correspondence with the chief of the Liberal Arts Section. So far nothing definite has been accomplished, nor are the prospects any too bright that pictorial photography will be treated in a manner satisfactory to the Secession. This has been brought about mainly by the poor advice of those who claim to be acting in the best interests of photography. As the *raison d'être* of the Photo-Secession is the

fight for principle, we must decline to fight over with the St. Louis authorities battles which elsewhere have already been won. The least we can accept is that St. Louis accords us what Glasgow, Vienna, Munich, Wiesbaden, Turin and others have cheerfully granted in the past. There has been talk of boycott by the Secession. This is the silliest rot. Our attitude is not one of antagonism, but one of steadfast and obstinate adherence to our principles. We have not asked to be invited to any exhibition. Failure to invite has not caused the slightest ill feeling. But, if we are invited, it must be upon a basis in accord with our cardinal principles.

There will, of course, be differences of opinion regarding this decision, but there can be none as to their right to say where they will or will not exhibit, and, as our readers know, we have all along had our doubts as to whether pictorial photography would get its rightful position in the St. Louis Exposition. The promise to place it in the fine art building was grudgingly given and with a string to it at that.

The circular also gives us one more proof of the well known fact that the ways of judges and juries are sometimes past finding out. It tells us that at Wiesbaden silver medals were awarded to Gertrude Kasebier and Frank Eugene, while Eduard J. Steichen was declared *hors de concours* because his work was too artistic.

* * *

TANK DEVELOPMENT.—From the Cramer Dry Plate Co. comes a card, punched for convenient hanging, bearing a new formula for a tank developer which, as is to be expected of anything that comes from that reliable house, answers the purpose admirably. Somewhat contrary to the modern tendency to simplicity, the formula includes no less than four reducers, and quite as contrary to the asserted necessity for non-staining solution, pyro is one of them. There are also two retarders, ammonium bromide and sodium citrate, the latter, of course, formed by the union of the acid citric and part of the sodium carbonate.

As the quantity of dried sodium sulphite is only about equal to the quantity of the combined reducers the stock solution will only keep if stored in full bottles as recommended, bottles each just sufficient for a tankful. The pyro,

hitherto kept out of tank formulæ has doubtless been added for a purpose, to give the stain sometimes desirable in under-exposures, but those who do not care for that might with advantage substitute edinol for it. The normal tank solution pans out, as will be found, to about three-quarters of a grain of the combined reducers per ounce, a little stronger than we have generally recommended, but, put to the test of practical work both on the Cramer and other plates, it leaves nothing to be desired.

While on the subject we may say that we are surprised that tank development is so little taken advantage of, for a batch of snapshots which are generally more or less under-exposed nothing cannot only not be better, but nothing can be nearly so good. Instead of a weariness of the flesh, and of the spirit, too, watching one or two plates in a tray, and a long watch, too, as under-exposures can be developed only in weak solutions, one or two dozens may be put into the tank and left for hours with the sure and certain knowledge that by and by when you return to them that the most and the best that is possible will be found.

In writing thus in favor of tank development we are not to be understood as having in the least departed from our advocacy of developing by time. Time is still our stronghold for time exposures which means more or less correct exposure, but for one plate so exposed there are at least a hundred that get only a snap, and for such the tank is at once the most convenient and the most successful.

* * *

THE GRUN LENS.—We have heard little of this lens for some time, but there lies before us now a portrait by Rockwood, which, if taken by one of them as reported, affords unmistakable evidence of its ability to do excellent work. The portrait is that of a child in the full exuberance of life, dancing with both legs and arms, and with an expression of perfect enjoyment that is simply charming. Much of such charm is, of course, due both to the model and the photographer, but the efforts of both would have been futile had not the lens played its part. And it has played that part well. The image is not what is understood by "sharp," although not in the least out of focus;

but has that softness and delicacy, that "juiciness" so admired in the old collodion times, that is easier felt and admired than explained or described.

Whether that charming effect is altogether due to the lens we do not know, but are inclined to give it the benefit of the doubt. And we do that the more readily that we have not hitherto taken much stock in the Grun production. We have not seen the lens, and have seen but little of its work, but its inventor's ignorance of even elementary optics as shown by his writings was not calculated to inspire confidence in anything that he was likely to do in that direction. Then, so far as we have seen, the only advantage claimed for the Gruns lens over others was the larger working aperture, larger even than f-1, but the half of that or even less had been employed in all the work that we had seen, and the smaller apertures seemed necessary to produce even work that should be passable. If that be so, the claim for unique rapidity cannot be sustained, as there are lenses on the market without the trouble and uncertainty of liquid filled mounts that are equally rapid. But it may be, and the specimen before us warrants the supposition, that the lens has other qualities, and until we know we shall keep an open mind.

In the meantime we are told that Mr. George Rockwood has been appointed agent for their sale and possible production in America, but whether they will be imported or made here is not yet decided. If in addition to rapidity the lens has such qualities as we have suggested the latter should certainly be the case, the heavy duty required by the Custom House authorities debaring all but the wealthy from becoming their possessors.

* * *

WITH THE CAMERA, the monthly notes from the Illinois College of Photography, tells the usual story of continued prosperity; constant additions to the pupils, some of them from distant lands; frequent additions to the teaching staff and to the branches taught; and, perhaps healthiest sign of all, quite as frequent returns of many who have learned certain branches so well that they desired to learn some more.

The chatty notes tell of at least four of the recent students having opened studios of their own; of several having

taken life partners; of the College Camera Club's exhibition and competition, and of a very successful musical entertainment by the pupils and a great deal more that shows how they combine work with play in a way that makes us almost wish that our student days could come back again.

* * *

EXHIBITION OF THE ROYAL PHOTOGRAPHIC SOCIETY.—We have to thank the secretary for a copy of the catalogue of the forty-eighth annual exhibition of this, the oldest of photographic societies, and which, in spite of many ups and downs, has done and is doing much good work.

From the catalogue we learn that there are 369 selected pictorial photographs, but we regret that for the first time the printing methods are not mentioned, so that we cannot see, as formerly, what, or rather which, are in favor. The "Invitation" pictorial section intended to be a kind of jubilee landmark in the progress, past and present, of the art, has not been responded to so well as might have been expected, and only includes 205 exhibits, including 55 from the society's own collection. The scientific, technical and photo-mechanical show is, as usual, of considerable interest, there being 229 exhibits, while there are 117 lantern slides in 18 sets by eight exhibitors. Probably the least satisfactory part of the show is the section devoted to the General Professional Photography, which, as far as it goes, is good enough; but considering all that used to be said of the neglect of that branch by the society, we could have looked for a very much larger display. Stall holders are, as usual, well to the fore, each showing the best and newest of their productions; although we have never quite seen the *raison d'être* for occupying space that might be better employed, seeing that all and much more can be better seen and explained in the establishments of the dealers and manufacturers.

Not the least interesting feature of the exhibition are the lectures that are given during its course. They are generally by the best men, each in his own department, and taking place in the evenings—Mondays, Thursdays and Saturdays—are available to business men. Those already announced are three on color photography by E. San-

ger Shepherd, who, probably next to our Mr. Ives, knows more of its practical working than any one else; and one each on Alpine Zigzags, Southern Spain, Egypt—the Nile and its Dam, Wild Natives' Ways, Picturesque Devon, With a Camera in the Clouds, More of My Camera in Natural History, The Vatican and Pictures from Italy, and Pictures from the Swiss and North Italian Alps.

As usual, the catalogue is illustrated, this time with twenty-four reproductions from as many of the exhibited pictures, some of them, as "Extenuating Circumstances," "The Mill at Evening," and "Fenland," being excellent examples each of its class, while there are others, such as "Ave Maria" and "The White Fan," that do not appeal to us as evidence of conservative sitting on the part of the selecting committee. It is a somewhat curious fact that even in a very good picture by a professional photographer something of the professional strain may always be found in it. The more than fairly good picture, "Mrs. N.," by J. C. Strauss, even while following what is called the American School, is no exception; as in the pose, arrangement of the hands, and the artificial high light on the nose, all unmistakably tell of the professional influence.

The Salon is also open and, as usual, belittled by some and praised by other of our contemporaries, but on the whole it does not seem to contain anything very good or very bad, a fair average of recent former years. Of the

253 pictures 112 are by members of the Linked Ring, and 141 by non-members. Of the latter 147 are from Great Britain, 64 from America, and 42 from other countries. We may add that the 147 by British photographers is only about 15 per cent. of the number sent in.

We regret to say that from the American contingent many names are missing that were wont to be regular exhibitors, and our regret is all the more that there seems to be a good reason for it. Mr. Stieglitz, in a recent paragraph, but whether in *Camera Work* or the Photo-Secession we do not remember, as we cannot lay our hands on it at present, said something to the effect that in consequence of the treatment that some of the exhibits had received at the hands of the Salon authorities, certain members of the Secession would not exhibit this year, and we know that he is not likely to complain without cause. We know that handling frames, especially in such numbers as are sent to such exhibitions, is a risky business, but notwithstanding that, people who are at such trouble and expense to help in an exhibition, and that without prospect of pecuniary advantage, cannot be blamed for feeling sore at finding their property injured. There may, of course, be other causes for the absence from the Salon of some of our most prominent American exhibitors, but whatever they may be, it is matter for regret that their work should be absent from a place where it was so highly valued.

ANSWERS TO CORRESPONDENTS.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y.

Clouds in Landscape.

HARRY BARCONIER (as near as we can guess it).—It is always a difficult matter to get a cloudy sky and a good landscape on the same negative by one operation, the exposure for the two being so different. Sometimes when the cloudland is fine it may be well to sacrifice the landscape by giving only the exposure necessary for the clouds, but it is always a compromise and rarely a success. A far better way is to

give exposures on two plates, one for the landscape and one for the sky, and print the sky in after printing the landscape. You will find articles giving instructions for that in several of our back numbers. There are on the market ray filters to fit all sizes of lenses, and there are certain kinds of clouds that cannot be properly photographed without them. For the factor for edinol see the article on "Formulae" in our September number.

Focal Fractions.

J. R. BELL.—For your first see the article recommended to Harry Barconier; we hardly understand your second, but think you refer to the figures on your lens mount or rather on the diaphragm shutter. If so, they are the obsolete U. S. numbers at one time recommended by the Royal Photographic Society, good enough when the rapidity of lenses did not go beyond f-4, but useless now, when much greater rapidity is common. No. 1 meant f-4; 2, f-5; 4, f-8; 8, f-11, and so on, but, as already said, that system has been abolished by the society that introduced it, and should not be used by the lens maker longer, as it only leads to confusion. Lenses should always be marked with their f values, and equally always with their focal length instead of the plates that they may be made to cover.

Choice of Camera.

E. H. ROYCE.—There is nothing to choose between the cameras you mention, and indeed little beyond convenience and taste between any of those of the higher grade. The most important feature of a lense for pictorial work is its focal length, and the camera, of course, must have a draw long enough for the lens. If you select a camera already fitted with a lens make sure that its focus is long enough, not less under any consideration than the diagonal of the plate; $6\frac{1}{2}$ inches for your proposed 4x5, and even that is shorter than we could be induced to use. We have always advised once and a half the length of the longest way of the plate, and maintained that twice that length is very much better. A too short focus makes the photographer go too near the object, with the result that the perspective appears very much exaggerated.

Combination Prints.

L. B. HULSE.—You have done the best that you could with your method, but not so good as you might with another. A waterfall with such dark surroundings cannot be photographed by one exposure, at least to advantage, but by two exposures on separate plates, one for the water, the other for the surroundings, and printing from both negatives on one sheet of paper should give a perfect result. The subject is especially fine, and is worth all

the trouble entailed in doing it full justice.

Camera Obscura.

J. D. MCHARDY.—No, your old-fashioned landscape lens will not do for your proposed camera obscura, it is of too short focus and too small diameter. The focus of the lens must be something like the distance from the top of the tower to the image table, and of corresponding diameter, but it need not be achromatic, and plano-convex is better than double convex. Prisms are not used for such purposes, mirrors being both better and very much cheaper.

Finding the Focal Length of Lens.

HARRY WATERSTON.—The method of ascertaining the equivalent focus of a lens to which you refer and which has been frequently given is as follows: Focus a distant object and mark the position on the moving part, the front or back, on the baseboard. Then focus, say, a foot rule to as large size as possible and again mark the position of the aforesaid movable part as before. Next multiply the distance between the marks by the original size of the foot rule and divide by the size of the image, the result being the focal length of the lense.

An All Around Developer.

R. J. BOWMAN.—A developer suitable for all kinds of developing is rather a large order, but the following is as near as we can suggest:

Edinol	45 grains.
Aceton sulphite	35 grains.
Sodium carbonate	60 grains.
Water	10 ounces.

For negatives on plates or films this may be modified to suit the exposure, it being planned for that that is as nearly correct as may be; and for lantern slides the exposure must be made to suit it. A writer in a contemporary who employs it for the development of prints on velox paper, and who develops hundreds of prints daily, says that with a normal exposure it gives fine velvety blacks, and with an exposure fifty times as long, a color of the true Bartolozzi red.

Public Privilege.

(MISS) A. L. PETERSON.—The Clergyman is bluffing you. He has not and cannot have any copyright in the church whatever he may have in photographs taken by others. The fact that

the church officer gave you permission to take the photographs of the interior, although he had no right so to do, lies between him and the preacher, and you are at perfect liberty to print and dispose of as many of the prints as you please or as you can.

Clouds in Negative.

ELLEN CUNNINGHAME.—It is a pity that the clouds that were "just lovely," at first should have altogether disappeared during development, but you can easily bring them back again. Moisten a tuft of cotton with Farmer's solution and with a circular motion go all over the sky, holding it for an instant under the tap from time to time to watch the process of reduction, and by and by the clouds will appear just as they were before being buried by prolonged development. Farmer's solution is a 10 per cent. solution of hypo to which is added sufficient of a saturated solution of potassium ferricyanide to make it a straw color. The deeper the color the more rapid will be the reduction, but if too dark it is apt to stain the film.

A Matter of Taste.

AD NAUSEAM.—While we do not like the pictures to which you refer and believe they show more of eccentricity than honest effort after true pictorial effect, neither you nor we have a right to fix a standard beyond which picture makers by photography shall not go. We know that one of the three has been highly praised by better judges than we pretend to be, and while we are always willing to make room for honest criticism, we cannot open our columns to the "abuse you opponent" style of argument that you employ, especially as you desire to fight under a mask.

The Metric System.

LAURA SANDERSON.—You need have no difficulty in using, or making up developing formula in the metric system, as it rarely includes anything but grammes and cubic centimetres, both of which may be taken as equal and which may be considered as *parts*. The part may be anything depending on the quantity required, grains, 10 grains, or drachms.

Insufficient Exposure.

ARTHUR LEVINE.—We have received the second print from the negative of

the print 1657, noticed in our last, but although lighter and considerably better, nothing can make up for the hardness and false values incident to under-exposure. Compared with your landscape, 1670, noticed in this, it is simply nowhere. Local intensification would not improve it, as it would increase the deposit already there, adding nothing to such parts of the negative as are quite black in the print. In exposing "against the light" the whole subject is in shade and the exposure is necessarily longer. With f-11 under the conditions mentioned we should not have expected to get anything worth printing with less than one second, and more likely have given it two.

Toning Difficulties.

ALICE OF WONDERLAND.—The possible color of a print on printing-out-paper depends on the negative more than on the toning formula, and the negative of the print enclosed is too thin, too much under-developed, for anything but the weak washed-out looking thing that it is. Get one of your photographic friends to show you a really good negative and then develop accordingly, and you will get the purple brown tones you want. The toning formula you send is as good as any other, but don't forget that with both solio and albuma you must print considerably deeper than the finished print is intended to be.

J. D. VAN ALLEN.—We have forwarded your letter to the party concerned and shall publish it with his approval, but only over your own signature.

Merely an Opinion.

CRITIC NO. 2.—We have said over and over again that we do not defend our criticisms and that they are the opinion of only one man with no greater claim to be right than the next. We do not like the very high horizon lines in some seascapes, but that is no reason why another should not like and make them, nor why we should not admire and speak well of them where they are effective and pictorial. Where correct technique is the aim, the horizon line will always be in a level with the eye of the observer.

W. H. BLACAR.—We have handed your letter on the shutter question to an expert mathematician who may have something to say to it.



No. 1073.

"AT EVENING."

Helen L. Griswold.

THE
AMERICAN AMATEUR PHOTOGRAPHER.

VOL. XV.

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NO 12.

RETROSPECTIVE.



TEMPUS FUGIT, and in its flight brings us once more to the last article in "the last number of the year" and the retrospect, whether of congratulation or regret, that is necessarily its theme.

And that theme, like an old fashioned sermon, may be divided or dealt with under three heads: What has the year done for photography? What has been our main object in the conducting of the magazine? and, To what extent has our efforts been successful?

The progress of the year may be dismissed in a very few words; it having consisted in the improvement of things old rather than the introduction of anything that is new. The "kodiod plate" has not caught on as expected, perhaps not as it deserved, but photographers are proverbially slow, and it may yet spring into greater popularity. The N. C. or "non-curling" film has met with a more enthusiastic reception, and, being orthochromatic, it fills a long felt want. The developing machine, although not exactly a thing of this year, has, during its course, reached a well deserved popularity; helping to direct attention to development by time and factor, the greatest improvement in practical photography of the last two decades. We welcome the Ansco film also, although we cannot speak of its quality, not having had an opportunity of putting it to the test of practical work, but because we believe in competition as being beneficial to all concerned.

"Of the making of books there is no end," and photography has had its share, although few have left on us at least any vivid impression. An exception might be made in favor of *Camera Work*, the first number of which is dated January, 1903, and of which we had something to say on page 521 of our last number. We make the exception in its favor because it is an altogether exceptional publication and has for its object what is dear to our heart, the lifting of photography to the highest possible plane. We may not, indeed do not, approve or appreciate all of its ways; but in certain directions it is doing more than all other photographic publications to further the cause. R. B. Litchfield's "Tom Wedgwood the First Photographer," is also worth remembering as throwing considerable light on the earlier experiments in photography, as may be seen from our notice of it that appears on page 188 of our April number. Nor should we omit to place as one of the books of the year "The Figures, Facts and Formulæ of Photography," which is, as we said when first noticed, on page 140 of our March number, the photographer's "Look Within," and where he will hardly ever look in vain for anything that he can possibly want.

The optician and the camera maker have apparently got to the end of their tether, the output of both being as near perfection as we have a right to expect; although we should not forget the "Film Pack" introduced by the Rochester Optical Company; an invention by which twelve flat films can be loaded in daylight in any camera that has been slightly altered to make it available. But even in that our friends across the water seem to be better off than those living next door to where they are made. An advertisement in one of our British exchanges telling of a camera with a pack of twelve films $3\frac{1}{4} \times 4\frac{1}{4}$, with a splendid lens, two brilliant finders, time and snap shutter, all free by mail for \$4.80. Several new lenses have been placed on the market, but neither cameras nor lenses will make good pictures unless the man behind them knows how to do it, and it is somewhat discouraging that in comparing some of the work of, say, forty years ago, with the best of that of the present day, we are forced to the conclusion that the improvement of the tools has not led to a corresponding improvement in the work.

And this brings us to our second head, our main object in conducting the magazine. In a single word, our desire has been to be helpful to our readers, first to perfect their technique, and then to lead them to, by the proper use of that technique, become picture makers by photography. But it has been uphill work. Not that it has been altogether without encouragement, as for several years there have been on the walls of the various salons of this and other countries pictures by readers who when first they submitted work to "Our Portfolio," knew little of technique and less of

art. But the successful ones are few compared to the many, some of whom have appealed to us for years, who never seem to get out of the rut, continuing to send prints time after time, each as bad as its predecessor, making us sometimes think that we have mistaken our calling. The one great fault in at least 75 per cent. of all the prints we see is under-exposure, the craze for snapping having apparently so demoralized their producers that they are unable to realize the necessity for anything beyond the mere white and black, have become in fact gradation blind. But we shall not take



No. 1683.

"AT EVERY GUST THE DEAD LEAVES FALL."

F. M. Case.

our hand from the plough. We have abundant evidence of benefit having been derived from our long fight against the employment of lenses of a too short focus, and more recently in favor of orthochromatism; and we shall persevere till those within the reach of our influence learn that snapping has its limitations and that exposure for the shadows is an essential part of both pictorial and technical photography.

Our third head has, to a certain extent, been answered in dealing with our second, although we have had blinks of sunshine as well as shade; and generally more of the former than the latter. "Our Portfolio" has been

largely taken advantage of, and, judging from the many expressions of thanks, with considerable benefit. The "Notes" have made our readers acquainted with almost everything photographic that has transpired worthy of notice, while our Watchman has done his best to correct the blunders and mistakes that *will* find their way into literature in spite of the most watchful care of editors. The "Answers to Correspondents" has been more than ever drawn upon, and not a few of our readers have said that they turn to that column first of all as soon as the magazine reaches them.

Our one weak point, solaced by the poor comfort that we have it in common with our contemporaries on this side, is the lack of thoroughly practical Articles, generally strong in our contemporaries across the water. Contributions, of a kind, are offered in plenty, but they are generally written by "fireside soldiers," and richer in fancy than in fact; rather than by photographers in the field, and the result of practical work. As has been elsewhere observed, American amateur photographers have not, as a class, acquired the "writing habit," and have not in the past helped us as much as they might have done to make the magazine all that we would like; probably because they carry the national characteristic habit of hustling into their photography to an extent that leaves no time for writing.

But we have hope for the future and have confidence that our one weak point shall be strengthened by the articles of the coming year becoming more numerous and better; more thoroughly practical because the outcome of practical experience.

We have many readers who are qualified to write. If each one will contribute only one article during the year, the exchange of ideas will be mutually beneficial.

It should be understood, however, that while our publishers are glad to pay for suitable articles, it may be taken for granted that articles written *because* they are to be paid for are rarely worth either printing or reading; literature is so far like the art of the painter, whose "pot boiler" is poor indeed compared with the work into which his heart and soul has been put.

There is one other way by which readers may help both us and themselves; by telling us what they especially want to know, or mentioning subjects on which they think articles should be written. We are tolerably acquainted with their wants, but there may be subjects of which we do not think; and, as far as possible, we shall either write or get written suitable articles in response to such requests; and with thanks to all who *have* helped us in the past and thanks in advance to all who may help us in the future, we conclude by wishing them and all our readers a Merry Christmas and a Happy New Year.

LANTERN EXHIBITIONS.

BY AN OLD LANTERNIST.



From a Lantern Slide by F. B. Wood.
"AN OLD FASHIONED FAMILY."

AS this will reach the eyes of the readers of *THE AMERICAN AMATEUR PHOTOGRAPHER* as the holiday season approaches a few words about lantern exhibitions will be seasonable. That the lantern exhibition is not so popular as it used to be is doubtless true, and there is more than one reason for it. The advent of the moving pictures is one, although, in my opinion, the least of at least two. How often do we read that So and So lectured on such and such a night before such and such a society and illustrated his remarks by the exhibition of 150 slides; or that during the lecture a hundred slides were passed through the lantern.

Passed through the lantern, yes, that is the correct expression, and at the same time the cause, more than anything else, of the waning popularity of the lantern exhibition. Think of a lecture lasting about an hour, or at most an hour and a half, and from ten to fifteen minutes thereof occupied with an introduction, leaving, say, on an average, a third of a minute to a slide.

For many years I was the official lecturer of a society that gave a "Popular Evening" every four weeks during the winter months, the lecture being simply descriptive of a set of slides, the sets being gathered from all available sources, and the audience filled the hall every night during all the years, the last night as full as the first. During the same period I lectured on a subject of special interest in most of the larger towns of Scotland and several of those of England, and the interest continued as great at the end as at the beginning. Not, however, through any ability of mine, be it observed, but mainly, if not altogether, through the proper selection of the slides and the time given for their examination, as I had from the beginning resolved never to show more than fifty and rarely quite so many.

As the result, therefore, of a long and fairly successful experience, I would give the following advice to the man who would become a successful lanternist. Never include in one lecture or exhibition more than fifty slides, and half that number would be better than any increase of it. Be careful in your selection that the objects shown are, on the screen, something approaching natural size; that is, such as portraits, flowers, etc., avoiding what I have often seen, the head of a child filling two-thirds of the three inch slide, and being on the screen many feet in diameter.

Whether the "lecture" be descriptive of the slides, or the slides illustrative of the lecture, time to examine each thoroughly should always be given, and he is a poor lecturer who cannot find something to say in the filling up of such time.

Equally important is the showing of each slide with a suitable light. Where oil is the illuminant there is no choice and the operator can make no change, although the lecturer should have seen that slides so shown were thin enough for the purpose. With lime or electric light the case is different, and only the densest slides appear at their best with full power. With a set of slides of various densities each should be treated individually; that is, each should get the amount of light with which it tells best, and the difference is greater than those who have not tried it could think. How best to modify the light each may easily discover for himself. Plates slightly greyed, by exposing a slide plate to light for a moment, and developing and fixing may do, and they can be made of varying degrees of grey-ness; but I have generally employed a set of stops to reduce the aperture of the lens, placing them either before or behind if there was no stop slot in the mount. The object is, no matter how, to so reduce the light as to show the slide at its best, not as if covered with summer snow, but with every degree of light just as it should be.

But, no matter how well the slides may be placed on the screen, the show is too frequently spoiled by the inexplicable folly of placing a lantern at the side of the screens and attempting to read the lecture; and hardly less objectionable is the way or any of the many ways that have been adopted by the lecturer to let the operator know when to change the slides. In some cases the altogether abominable reading lamp has been furnished with a disk of red glass which the lecturer uncovered when he wanted a change; others gave a tap on the floor with his pointer: while some even went so far as to place a "buzzer" beside the lantern and connect it by an electric wire with the platform. Worst of all is the table bell, and I confess to, in my greener days, having carried one in my mind and giving it a good push for each change that was to be made. It may be at once said that signals, visible or audible, are an abomination, and that the lecturer who cannot commit or speak extemporaneously, and who cannot by a word or a sentence that shall appear a part of the lecture, communicate his desire for a change of picture has mistaken his calling and is unfit to mount the lecture platform.

SPECIAL LENS WORK.

The two accompanying views are of the ancient Tewkesbury Abbey in England. The top one was photographed with a Cooke lens wide open, while the lower view was made from the same position with the Cooke extension lens also with its full aperture. By removing the back glass and substituting another, the entire focal length is increased, and it is claimed that better results are thus obtained than with portions of other anastigmats used alone.



TAKEN WITH COOKE LENS. SERIES III. APERTURE $f/6.5$



FROM SAME POINT OF VIEW WITH COOKE EXTENSION WIDE OPEN.

TEWKSBURY ABBEY, ENGLAND.

SPECIAL SUBJECT SERIES.—XII.

Gum-Bichromate Printing.

BY DR. JOHN NICOL.

GUM-BICHROMATE is the oldest and, in this country at least, the least employed of any of the several modifications of carbon or pigment printing, while at the same time it gives to the pictorialist a greater amount of control over his results than any, or indeed than all of the other printing methods together, a control hardly second to that of the artist of the brush; the main difference being that while he makes his picture by laying pigment on, the gum-bichromate worker makes his by taking the pigment away.

Just why the gum-bichromate with its many advantages has been so much neglected in this country is difficult to say, although the fact that many of the most successful workers, and that applies equally to all processes, are less ready with the pen than those on the other side may have something to do with it. By less ready with the pen I do not mean that they are less "ready writers," but that they have not got into the writing habit. If evidence of this were needed it will be found in abundance by a comparison of any two of the British and American photographic magazines. In the former there is scarcely a page that does not contain the results or experiences, often in short paragraphs, of more or less experienced workers, while in the latter such records are few and far between; and it is difficult, very difficult, even when it would be well paid for, to get anything practical worth printing. Such experiences, even although often only short paragraphs, are like advertisements, keeping methods and processes before the readers, and although they are often more amusing than informative, they create an interest that leads to the adoption of processes and methods that might otherwise be neglected.

But the advantages of gum-bichromate are so great and so many that it will, and indeed is, making its way here. It is simple, in spite of the apparently complicated and troublesome coating of the paper, and the often alleged necessity for exact formulæ in the mixing of the various ingredients for such coating; it is probably the cheapest of printing methods; it admits of the selection of any desired color, or indeed of various colors in one print by those who care to coat the paper more than once; and is the only printing method by which exclusion can be carried on to an unlimited extent.

The first thing is the paper, the one essential quality of which is sufficient toughness to bear the necessary handling without fear of tearing, and almost any paper that has that will do, although, of course, some papers are better than others. Certainly a good machine made drawing paper leaves little to be desired, and the surface will, of course, be selected with a view to the kind of print required; smooth where detail is an object and

rough according to the breadth and boldness best suited to the subject. Nor need the gum-bichromate worker be confined to drawing paper, as he may go into any wholesale dealer's and pick as many sheets as will last him a year, for less than he would have to pay for a week's supply of the ordinary carbon tissue. As being quite suitable, however, I may mention such paper as is used by architects for their blue plans; most of the heavier kind of what is known as "bond"; such as is cut up for the heavier kinds of writing paper, and for variety, samples of paper tinted in various shades of various colors.

Whether such paper should get a second sizing is a moot question. I have tried both ways and never found any detectable difference, the sizing



No. 1886.

'GRAZING.'

H. A. Stanley.

done by the manufacturer being sufficient. But there may be papers that would be all the better for a second sizing, and for them either a vegetable or animal size may be employed. The former may consist of from 150 to 200 grains of arrowroot (starches vary in their setting power), may be boiled in 10 ounces of water in the usual way, strained, and while still hot applied to the paper pinned on a board with a brush or piece of sponge. The animal size may consist of the same quantity of gelatine first soaked in the same quantity of water and then dissolved by gentle heat, and to which is then added 60 grains of chrome alum dissolved in an ounce of water. This also is applied hot, and where a considerable number of sheets are to be sized the most convenient way is to make sufficient solution to float them in the usual way.

Two stock solutions are required, and as both will keep indefinitely, they may be made in considerable quantity. It has frequently been said that any kind of so-called gum arabic will do, but, since the true gum began to be expensive, it has been largely adulterated, and sometimes substituted by senegal and other gums, so that it is well to be a little particular in the selection. It need not, however, be the best "picked gum," but the ordinary "sorts," and of this three ounces should be dissolved in ten ounces of *cold* water. The best way is to employ a wide-mouth bottle holding considerably more than the quantity, tie the gum up in a piece of muslin and suspend it just under the surface of the water. It may take twenty-four hours to dissolve all that is soluble, and on no account should the bag be pressed so as to force any of the insoluble matter into the solution. The addition of a few drops of carbolic acid or any suitable antiseptic will give it the necessary keeping qualities. One ounce of potassium bichromate should be dissolved, or as much of it as will dissolve, in ten ounces of water so as to have a saturated solution. Some operators recommend the addition of sufficient ammonia to give it the ammonia smell, but I have never found that necessary.

Concerning the pigments there is a greater diversity of opinion, some finding the ordinary colors found in the "oil and color" stores all that they could desire, while others prefer the tube or pan colors employed by the artist. When the cheaper colors are employed they must be well ground on the palette or slab, a piece of finely ground glass answering for the latter admirably, in a little of the gum solution. After a little experience the photographer will learn all that he needs to know about the best colors and how to treat them, and in the meantime he cannot do better than adopt the following formula given at a recent demonstration by Mr. J. C. S. Mumery, one of Britain's best gum workers:

Ivory black	45 grains.
Burnt sienna	7 grains.
Gum solution	1 1/4 ounces.
Bichromate solution	1 ounce.

Place the powders on the slab, add a few drops of the gum, and, applying the spatula or palette knife with a circular motion, grind them to impalpability; adding more and more of the gum, and as the grinding proceeds, from time to time a little of the bichromate, till all of both are added and a perfectly homogeneous mixture is secured. And on the exact consistence of the finished solution or coating mixture depends, to a large extent, the ease and perfection of the coating; but the beginner will soon learn just what that consistence should be.

The solution thus made, the next step is the coating of the paper. For this purpose it should be pinned on a board and the paint applied with a broad camel-hair brush, going first from end to end, and then from side to side, making it as even and as smooth as may be. Some prefer a stiffer brush than the camel-hair, but that is a matter of opinion, and one that each operator must find out for himself. More important is the softener, the brush by which the surface must be made as smooth as if it had been floated instead of merely painted on. The earlier writers on gum-bichromate insisted on the necessity for a badger-hair for this purpose, costing



No. 1680.

'ALONG THE BROOK IN OCTOBER.'

S. B. Phillips.

anywhere from three to five dollars, an insistence that perhaps more than anything else frightened many from trying the method. But such an expensive tool is by no means a necessity, a gilder's hog-hair softener answering the purpose perfectly. But how it should be applied is easier done than described. Probably the best way is to take the brush between the thumb and index finger of the right hand, letting it rest on the second finger as one holds the pen in writing: and, moving from the wrist only, the brush being held perpendicularly, pass rapidly but lightly over the surface. This, I say, is easier done than described, and will be easier after each operation, the operator by and by being able, sans care or thought, to make a perfectly smooth surface.

And just here it may be as well to say that beginners are more apt to err in making a too thick coating than in any other direction. They generally know how the ordinary carbon tissue looks and cannot quite realize how very much thinner the gum film must be; but if they will keep in mind that it should not be thicker than the deepest shadow of the prints, they will understand that it must not be so thick that the white of the paper does not penetrate it. But that, like every other phase of the operation, will come by practice, and come in much less time than could at first be believed.

It may be well here to say that after the first application of the brush the paper will stretch, and when it does the pins from one end should be removed and replaced, making the paper as tight as before, it being easier to smooth a tight than a loose sheet. It is well also to know that the solution is practically insensitive while wet, and that the coating may be done in diffused light, only removing the paper to the dark room to dry. This it will do in a very short time, and should be printed within three or four days, as, unless kept in an air-tight box with calcium chloride, it will become insoluble.

Printing is, of course, conducted in the ordinary way, but as there is no visible image, or at least very faintly so, and only in the case of the lighter colored pigments, the exposure must be, for a time at least, a matter of trial and error. The sensitiveness varies with the pigments, and the exposure should be made with a view to the intended method of development, but for what may be called straight work it may be taken as a starting point that an exposure sufficient for ordinary printing out paper will be about right for gum-bichromate. One writer who has had considerable experience says that with a normal negative of average contrast, and with the pigments here given, twenty minutes in a fairly bright sunlight should be about right for gum-bichromate. I have my negatives marked in the way recorded on page 344 of the August number of this magazine, and can make allowance for whatever variation in the results I may desire.

Development, which is merely the dissolving and washing away of the unaltered gum and pigment, will naturally be modified to suit the exposure, and is commenced in all cases by soaking, face down, in a tray of cold water. With certain negatives and where the exposure has been suitably short, nothing more may be required, as with the face of the print turned up and a little rocking of the tray, the image may be fully revealed in full gradation and the whites pure except for the color of the bichromate, easily



No 1678

"THIS LITTLE PIG GOES TO MARKET."

Barbara Channell.

removed by what is sometimes called the fixing process. More generally, however, something more is required; and one favorite way is to remove the print from the water and place it face up on a plate of glass, a stout plate of zinc, or one of the thicker ferrotype plates. This is held at an angle over the dish or even the sink, and water laved over it, poured from a pitcher, or in any other way by which some friction may be given to the contact of the water with the print. In this way local development to almost any extent may be carried on, dark shadows lightened, clouds made in an otherwise blank sky, and objectionable features altogether removed. Nor is the artist—I say the artist advisedly—restricted to the water laving, as he who knows what he wants, and how to handle the brush to get it, has in that brush a powerful means for the production of pictorial effect. But just how to handle the brush is one of the things that cannot be taught; it must come as if by instinct, but when it does, he who wields it has in gum-bichromate an ideal method of picture making.

Development complete and all the soluble material washed away, it remains only to fix and dry the picture. By fixing is meant the removal of the yellow stain left of the bichromate, and this is readily effected by an immersion in a solution of alum consisting of about 300 grains dissolved in ten ounces of water. The print should remain in this till completely free from color, when, according to some, it may be hung up to dry. I prefer, however, to give it one or two changes of water by way of washing, although it must be handled with care, as even the toughest paper is apt to become tender enough to require great care.

WORDS FROM THE WATCH-TOWER.

BY WATCHMAN.

ELIZABETH FLINT WADE has mounted the watch-tower in her "Round Robin Guild," but I am not the least bit jealous, especially as in her first attempt to set some one right she has gone pretty far wrong herself. It would appear that the unfortunate fellow who has charge of the "Answers to Correspondents" column in a contemporary in reply to a request for a pyro formula told his correspondent to dissolve 100 grains potassium metabisulphite in six ounces of water, and pour it into an ounce bottle of pyro; very good advice, nor could there have been anything much better. But not so thinks our new watch-woman. She thinks, because the metabisulphite is not much used in this country, that he should have recommended the sodium sulphite, not knowing apparently that that salt is more frequently than not alkaline, and consequently a poor preservative of pyro; but she does even worse. She asks, "How was he to pour six ounces of fluid into a one ounce bottle of pyro?" Has she never seen an ounce bottle of pyro, or has she forgotten what it is like? I have seen many, but never one that would not hold more than six fluid ounces, and some of them much more. A little further on she herself dons the mantle

of the "Answer," and in reply to a query as to the propriety of writing the title on the print, she says, "Unless for commercial purposes, *it is not an addition* to write the name on the print." The italics are mine, but surely, surely the title must be an addition, although it may not be an improvement.

* * *

Why is it that men, otherwise altogether above reproach, *will*, whenever they get, or think they get, a chance, take a sly dig at their American brethren? The latest offender in this direction that I have come across is in the old reliable *British Journal of Photography*, where the editor, in telling of Denmark and the Faroe Islands having entered into the Berne Convention so as to get and give the benefits of the Copyright Union, adds, "America has always held aloof from this (and the more's the pity, say I), with the result that English works are pirated through thick and thin in the United States, as British and Continental publishers know to their cost"; and then he rather ungraciously adds, "Of course, American works can be reproduced here, but then there are comparatively few that English publishers would care to copy." And on another page, after telling of an unusually large enlargement that has been made in Germany, a copy of which will be sent to the St. Louis Exhibition, he adds, less ungraciously, of course, but looking as if it carried with it something like a sneer, "Will the Yankees be eclipsed?"

NOTES.

AN ACTINOMETER.—*The Amateur Photographer*, in speaking of the discovery of the decomposition of a solution of iodoform in chloroform by the action of light, a discovery due to Mr. W. B. Hardy and Miss Willcock, suggests the possibility of its being employed as an actinometer. The decomposition results in the liberation of iodine and consequent coloring of the solution, and it is so delicate as to be brought about by the light of a candle. The color will, of course, depend on the quantity of iodine liberated, and there should be little difficulty in measuring the intensity of the action in time units by comparing it with some decided or standard color. Will some of our readers who have the time, talent and opportunity look into the matter? We want a reliable actinometer very much, and he who will produce it will earn the gratitude, and probably something much more substantial from every photographer of the country.

INTENSIFICATION.—At a meeting of the London and Provincial Society, intensification being the subject under discussion, Mr. Welford said that if the negative after bleaching with mercury be exposed to light for some time before blackening, the density will be much greater than without such exposure. We have tried it and find the increase very considerable.

THE GRUN LENS.—Since speaking of this in our November number we seem to have got a little more light on its action, as will be seen from

the following which we clip from *The Amateur Photographer*: "As bearing on this matter, Dr. Grun sends us two spectrum photographs taken at the same time and on the same plate, crown glass being interposed in one case, while in the other case, instead of the crown glass, there is interposed that fluid which in Dr. Grun's lens replaces the crown elements of an ordinary lens. The difference is remarkable. It will be seen that the crown glass cuts almost the whole of the ultra-violet rays, and much weakens a considerable range of the visible spectrum, especially from the extreme red to the brightest visual part, or in the neighborhood of the characteristic double sodium line. The fluid used by Dr. Grun allows a very free passage for the whole of the visual spectral light, and also for much of the ultra-violet, thus illustrating the undoubted fact that the focal-aperture of a lens is not a sole criterion of its working intensity, as the absorbing powers of the various glasses must be taken into account.

QUINOMET, the new combination of metol and hydroquinone, according to Watkins, has a developing factor of 28, nearer metol than hydroquinone, the former being 30, the latter only 5. The factor is independent of whether with or without alkali, and Watkins seems to think that the only difference between the compound and its separate constituents is that while it develops without an alkali, neither of them will do so. He adds that the keeping qualities of the new compound are neither better nor worse than those of metol, but if as good they are good enough, as we have before us now a one solution of metol that was made three years ago, and although as dark as light sherry, it seems to have lost none of its developing power.

A MONSTER ENLARGEMENT.—*The British Journal of Photography* gives the following account of a monster enlargement, which, in answer to its question at the end of the notice, we have no hesitation in saying will eclipse anything of the kind ever attempted in this country. "From the *Deutsche Photographen Zeitung* we gather that, at the recent exhibition held by the German Photographers' Association, at Dresden, an enlargement of unusual dimensions was exhibited by the Neue Photographische Gesellschaft, the well-known manufacturers of bromide paper. The subject was a panoramic view of the Bay of Naples, extending from Vesuvius on the one side to Capri on the other. The camera was set up at Castell S. Martino, and six negatives made. These measured about $10\frac{1}{2}$ inches by $8\frac{1}{4}$ inches each, and care was taken that a continuous view was obtained. With an enlarging apparatus, fitted with a condenser $12\frac{1}{2}$ inches in diameter, six prints upon bromide paper were made. These enlargements measured 59 inches by 79 inches, and it will be clear to every photographer that the great difficulty lay in producing prints which could be joined up without attracting attention. The exposures had to be very carefully timed, and ranged from thirty minutes to an hour and a quarter. The development also required special contrivances, as the six prints were treated as a continuous band, and developed simultaneously. A large wheel was constructed about 6 feet wide, with a diameter of over 13 feet and circumference of about 41 feet. This was erected on a suitable scaffold. Three troughs for the developer, clearing solution, and fixing baths

were provided, and about two cubic meters of each solution were used. Another gigantic trough, almost 50 feet long, was used for washing the print. These troughs were provided with wheels, and ran on a tramway. Ferrous oxalate was used for development, and dilute glacial acetic acid for clearing the print. Two reserve solutions—one of stronger developer and the other of acid for accelerating or retarding the development locally, as occasion required—were also employed. These solutions were applied with sponges. When the development was complete, further action was checked by sponging the print with dilute glacial acetic acid. The clearing bath was allowed to act for twenty minutes, and the fixing bath for forty-five minutes. The final washing lasted eight hours, and about 300 cubic meters of water were used. All these operations were conducted in the open, at night. The print was retouched, but not more than is usual in enlargements. A duplicate of the enlargement will be exhibited at the works of the Neue Photographische Gesellschaft, and this will afterwards be sent to the St. Louis Exhibition. Will the Yankees be eclipsed?"

COLOR FILTER.—While for the best results the color filter should be made to suit the plate, more frequently than not screens and plates are used indiscriminately, trade screens being generally used with plates of various makes, the photographer selecting the screen according to its depth of color altogether irrespective of its composition. For such a screen, or rather a set of such screens, the following formula is said to give probably the very best color for general use, although specially made for the "Tricol" plate of the Gem Dry Plate Company:

Naphthol yellow S. E. (Bayer's).....	25 parts.
Naphthol green	1 part.
Titan scarlet	1 part.
Water	Q. S.

By water in sufficient quantity is meant, of course, water to make the color of the desired depth, and that will depend on the method to be employed in making the screen. If by staining gelatine and pouring it on the plate, then the color should be as dark as the darkest screen and diluted for those that are wanted lighter. If, which is a convenient way, by immersing plates already coated with gelatine, such as lantern slide plates that have had the silver bromide dissolved out, in the solution it should be made as dark or darker than the darkest is meant to be, and the surplus color removed by continued soaking in water till the desired shade is reached. Generally, three shades will be found sufficient for all possible purposes, say, of such a depth as respectively increase the exposure on orthochromatic plates three, six and twelve times.

RED TONES ON PRINTING-OUT PAPER.—According to the editor of *Photography*, tones from sepia to red may be obtained in the following combined bath: Sodium tungstate, 10 grains; ammonium sulphocyanide, 20 grains; sodium hyposulphite, 240 grains; dissolved in 2 ounces of water. To this is added one grain gold chloride in half an ounce of water, and the whole well shaken. The bath is ready for immediate use. The request for a formula for red tones is so often asked that, contrary to our usual custom, we give this without having had an opportunity of trying it.

CONTRIBUTION BOX.

Our readers can make this department one of interest and mutual benefit by sending in occasionally brief articles on their experiences. Short, plain statements of facts or ideas, however crudely written will be welcomed.

FORTUNE TELLING BY THE MAGIC PHOTOGRAPH.

AS what may be called the party season approaches party givers are doubtless looking out for something to amuse their guests, and will, if they can only manage it properly, thank me for suggesting fortune-telling by the magic photograph as being one of the most fun provoking amusements that they can introduce.

The way to set about it is this. Make or get made as many prints of ordinary card size, preferably portraits of strangers and male and female in proportion to the probable guests. Or they may be copies from book illustrations, and, where the guests will take it in good part, the more ludicrous the better. The prints must be made on printing out paper, and fixed without toning. After being thoroughly washed, and this is important, they are bleached by a solution of mercuric chloride till the image quite disappears and dried. They may be mounted or not, but are easier handled when mounted. The other essential is a book, any worthless thing will do; and a number of the leaves must be torn out and their places supplied with a number of sheets, the size of the leaves, of blotting paper moistened with a solution of sodium hyposulphite. This, of course, should be prepared only a short time before the party assembles.

The way to work it is this. The fortune teller introduces the subject in the best way he can, telling how he got the secret of how to foretell the future from an old gypsy on her deathbed, or any kind of "gag" that may be within the limits of his or her ability, and presenting at the same time a pack of the prepared cards, ask them each to draw one. Or, it may be easier and less likely to lead to confusion if he deals with only one at a time, and he will be dull indeed if he cannot "force" the kind of card he wants on each particular member of the party. The card being drawn, he opens the book and requests him or her to place it between the blank pages, shuts it and lays it on the table, asking the seeking one to place his or her hand on it, and press as hard as he or she can, as the harder the pressure the more decided would be the issue. To give time for the hypo to act the operator or fortune-teller should have something to say, and the more mysterious the saying the more the fun, so long as the saying is of the right kind; and only one who can suit his sayings to the place and the people should be intrusted with it. The female gets male photographs, and *vice versa*, or such other subjects as the parties in charge know what will be most suitable and yield the most amusement, but in all cases care should be taken that none shall take offence at the fun.

A. GYPSY.

OVERCOMING AIR BUBBLES IN DEVELOPING.

The formation of air bubbles upon a plate under development is such a frequent cause of annoyance that a simple expedient for preventing them may be welcomed by some of your readers.

The treatment consists merely in breathing upon the plate with a slow and full exhalation immediately before wetting it with the developer.

The cold plate when breathed upon condenses moisture upon itself from the warm breath, and this invisible dew predisposes the film to receive an aqueous solution evenly over its entire surface, the imperceptible coat of dew acting as a conductor to guide the developer in an unbroken flow over the plate. Those places on the film which by resisting the developer and remaining coated with a layer of air, produce air bubbles, as well as those "greasy" places that sometimes occur on plates, will each receive the developer as well as any other part, each having condensed the breath's moisture upon itself in an equal degree with the rest of the surface.

While breathed upon, the plate should be exactly horizontal, and within two or three inches of the open mouth, care being taken to go with regularity at least twice over the entire surface, not neglecting the edges and corners.

If the plate were held vertically while breathed upon, the breath would rise by its own warmth so that only a limited amount would reach the plate, particularly its lower part.

In cold weather a plate should be breathed upon longer than in moderate weather, because in cold air the breath is more rapidly cooled in its transit between mouth and plate. In very cold weather to go over the plate five or six times has been my practice.

In hot weather also the breathing should be continued longer than in moderate weather; the plate being in hot weather not sufficiently cooler than the breath to produce condensation rapidly. In hot weather I go over a plate three or four times. Since this expedient occurred to me a few years ago I have never had an air bell form on a plate. The same method should apply to the developing or gaslight papers.

M. C. BOOTH.

OVERCOMING VIBRATION IN TELEPHOTO WORK.

In telephoto work some contrivance is necessary for steadying the telephoto combination. This, of course, is essential, owing to the tendency of the lenses to vibrate by reason of the excessive length of bellows required.

The best methods for accomplishing this purpose, which the writer has seen in print or has heard of being used are: (1) an extension arm run from the top of the camera box, which is thus used as the base of support; (2) an adjustable brace running from the front leg of the camera tripod to the telephoto barrel; (3) a separate tripod. These means seem, however, more or less cumbersome and inconvenient, when compared with the following simple contrivance, which the writer successfully employed during the past summer.

For the immediate support of the lens combination a semi-circular flat ring was cut out of a small piece of white pine. This ring had a cross

section of about one inch, with an inside diameter a trifle larger than that of the telephoto barrel.

A small strip of silk plush was then glued on the inside of this wooden support, making the latter exactly fit the telephoto barrel. Until the glue is dry, do not, however, place the barrel on the plush mounting, as the lacquer of the barrel may be destroyed by the glue.

A small hole, half an inch deep, was bored with a gimlet in the center of the under side of the wooden ring. In this hole was forced a thread to fit the tripod screw. This threaded hole was for receiving the screw of a ball and socket clamp, such as made by Folwer & Schwing Manufacturing Company. The opposite end of this clamp is fastened to a stick, cut the length desired, for supporting the lenses from the ground. As any rough stick will answer, one need not be carried, if it can be picked up where the pictures are to be taken.

The contrivance described can be made in a few minutes and, excepting the stick, can be carried in one's pocket.

NORMAN McCLINTOCK.

DEVELOPER FOR BRIEF EXPOSURES.

Considerable experience in the development of short exposures, as brief as the one-thousandth of a second with the focal plane shutter, has satisfied me that for all the most desirable qualities in a negative there is nothing equal to glycin, either alone or in combination with metol, eikonogen or any of the other quick reducing agents. In practice I use metol as the addition, about 10 per cent., and find that with this developer I can get all out of the shadows that is in them before the high lights are too dense and there is no tendency to uneven markings on the plate if it is allowed to lie in the tray without rocking. Metol alone is undesirable, as it develops so rapidly that there is little possibility of control; if it is pushed beyond a certain limit it will produce fog over the shadows before the high lights are of proper density. Glycin alone is too slow, although it yields clear negatives with prolonged development.

The following is the formula I use:

Glycin	75 grains..
Metol	7½ "
Sulphite of Soda (cryst)	3½ ounces
Carbonate of Potash	3½ "
Water	32 "

Dissolve the sulphite and potash in boiling water and add the glycin when solution is complete, keeping up the heat until the glycin is all dissolved. Dissolve the metol separately and add to the other. When cool fill into well stoppered bottles of convenient size and it will keep indefinitely. If a more concentrated developer is desired simply reduce the quantity of water, but in using the concentrated developer it is advisable to fill up the bottle with water if it is only partly used, as the large amount of alkali hastens decomposition in the presence of air.

I think a trial of the above will recommend its use to those who have to develop uncertain exposures and who desire to get something better

than the usual soot and whitewash effects in cases where it has been impossible to give sufficient time or the exposure has been inadvertently too short.

FRANKLIN H. WHITE, M.D.

AWARDS IN OUR PRIZE COMPETITION ILLUSTRATING AND DESCRIBING A VACATION RESORT.

The competing photographs and descriptions have been received and the awards made, and we regret to say that we are, to a certain extent, disappointed with the result. While the number of entries were satisfactory, although we did expect more, we specially deplore the fact that so many of those who did compete should have thought that fearfully under-exposed snapshots could be worth sending. This, too, notwithstanding our oft repeated plea for sufficient exposure and the fact that the conditions of the competition specified that the pictures would be judged on their artistic quality.

Several of the entries were got up in fine taste, Dr. G. W. Allyn's pictures and neatly typewritten text being got up in album form on sage green mounts and tied with ribbon; one contestant lapsed into (very bad) poetry, and the joint production of Helen A. Baldwin and H. G. Dorsey showed excellent taste.

The prizes have therefore been awarded in the following order, and we shall, as opportunity occurs, reproduce some of the pictures and articles to which they have been given:

First prize of \$15, for "The Old Reservoir," apparently the head-water of Ohio's one-time chief water highway, by Helen A. Baldwin and A. G. Dorsey of the Mechanic's Institute, Rochester, N. Y.

Second prize of \$10, for "The Yosemite—An Ideal Vacation Spot," by W. E. Cogswell, 609 Twelfth street, Sacramento, Cal.

Third prize of \$5, for "Mohegan Plantation," by Dr. G. W. Allyn, 709 Penn Building, Pittsburg, Pa.

Honorable mention for "Halifax as a Summer Resort," to J. A. Irvine, 76 Le Marchant street, Halifax, N. S.

Entries also received from Claude Davis Millar, 2510 Kemper Lane, Walnut Hills, Cincinnati, Ohio; W. H. Wylie, Ellenville, N. Y.; Mrs. J. D. Rosie, Arlington, Mass.; Albert Hubbard Bailey, Cromwell, Conn.; W. J. Neubrik, C. E. Coleman and Edward J. Macmillan of New York City.

LANTERN SLIDE PRIZE COMPETITION.

Now is the time to look up your best negatives and make lantern slides for our THE AMERICAN AMATEUR PHOTOGRAPHER Prize Set for 1904. Over fifty dollars will be distributed among the successful contestants, and we urge upon all our subscribers to take active interest in the competition. The prize slides will be made up into a set for free circulation in the order in which requests are booked. Full particulars and rules will be given in our January issue.

ON THE PREPARATION AND DEVELOPING PROPERTIES OF METOQUINONE COMBINATION OF METHYL-PARAMIDO- PHENOL (METOL) AND HYDROQUINONE.

A. AND L. LUMIERE AND A. SEYEWITZ.

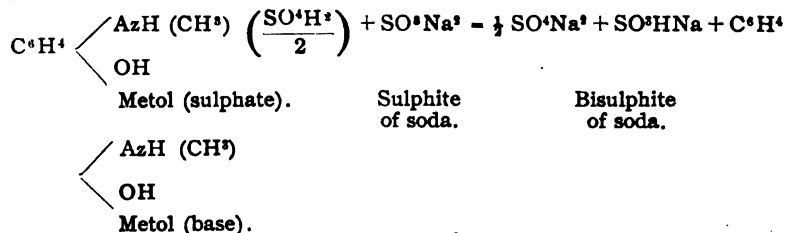
SULPHATE of methylparamidophenol, better known as metol*, can be, as is known, combined with hydroquinone in order to produce a developer endowed with certain qualities not possessed separately by those two developing substances. We believed it possible to apply these new properties to the formation of a chemical combination between these two substances, of which hydroquinone has an exclusively acid character, while metol has a distinctly basic function. It has been possible to confirm our theory by experience, for we have succeeded in isolating a definite combination of these two bodies.

PREPARATION OF THE COMBINATION.

Mix saturated solutions of metol and hydroquinone in the proportion of two molecules or parts of metol to one of hydroquinone, then add anhydrous soda sulphite to saturation. After a few seconds an abundant precipitate is obtained in the form of brilliant white particles, which fuse without decomposition at about 135 degrees. This point of fusion is notably different from that of hydroquinone, which is 169 degrees, and from that of metol, which fuses at 87 degrees. This combination is soluble in cold water; water dissolves 1 per cent. of product at 15 degrees, it is more soluble warm (10 per cent., at 100 degrees), it crystallizes easily by cooling the warm saturated solution. It is very soluble in cold alcohol (20 per cent. at 50 degrees), and only slightly soluble in cold benzine, ether, and chloroform. Acetone† is the best solvent of metoquinone, 100 c.c. of acetone dissolving about 35 grs. at ordinary temperature. When it is heated in presence of acids the combination separates into hydroquinone and salts of methylparanol corresponding to the acid employed. This property renders possible the determination of the composition of the substances, and the showing that it contains two molecules of metol to one of hydroquinone. This composition is ratified by the yield of pure product that is obtained in the preparation.

REACTION THEORY.

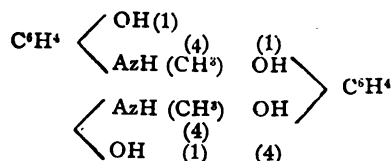
It must be admitted that soda sulphite acting as an alkali on the sulphite of metol decomposes it according to the following equation, while freeing the metol base:



* The name given it by Messrs. Hauff & Co., of Feuerbach.

† We have used this substance in the preparation of greatly concentrated liquid developers.

The metol base combines proportionately on formation with the hydroquinone, and gives a true saline combination according to the following formula :



This combination is slightly soluble in saturated solutions of sulphite of soda. The facility with which the body thus obtained is resolved into its component parts under the influence of acids warrants the supposition that reaction has taken place without the elimination of water. Hydroquinone would, therefore, have simply replaced sulphuric acid by sulphate of metol. We have designated this new combination **METOQUINONE**.

PHOTOGRAPHIC USES.

A.—Development of Plates.

(1) Development without the addition of alkali with sulphite of soda only.

Metoquinone has very interesting developing properties possessed by neither metol, hydroquinone, or a mixture of those two substances. It develops with the sole addition of alkaline sulphite, such as chlorhydrate of diamidophenol. Its developing action, in presence of only sulphite of soda, is slower than that of diamidophenol (about half the speed), but gives images of intensity and transparency in the blacks altogether comparable with those obtained with that developer. We have ascertained what under these conditions was the best developing formula, considering on one hand the influence of the proportion of sulphite, and on the other that of the quantity of reducer. The following is the formula for normal developer that appears to us to be the best :

Water	1,000g.
Metoquinone	9g.
Anhydrous soda sulphite	60g.*

This solution is colorless, and keeps indefinitely in corked bottles without the least alteration. In uncorked bottles it becomes discolored very slowly, and acquires an appreciable tint only after several months, without, however, any modification of its developing power. The solution does not become colored during development, and may be re-used without the necessity of special precautions for keeping. The developer may be used until exhausted without appreciable coloration of the solution. Finally, the liquid, probably owing to freedom from oxidization, does not stain the fingers.

(2) USE OF ALKALINE CARBONATES.

Up to the present time metoquinone is the only developer capable of being used, if desired, with or without alkali, and without fear of causing fog by the alkaline addition. The use of alkaline carbonates in developers

* The metoquinone is first dissolved in the water, the sulphite of soda being then added,

containing this new product considerably augments the developing powers of the solution. With 1g. of carbonate of soda a very marked accelerative effect is at once shown, and with 2 per cent. the maximum effect is given. Development is about $2\frac{1}{2}$ times as rapid with carbonate of soda as without the addition of that substance. Carbonate of potash acts in the same manner as carbonate of soda.

The image obtained is less transparent but more vigorous than that given by alkaline sulphite alone. A developer to which alkaline carbonate has been added may be advantageously employed for under-exposed negatives, and may be used until exhausted.

The following appears to us to be the best formula for a normal developer, using carbonate of soda as an addition:

Water	1,000g.
Metoquinone	9g.
Carbonate of soda.....	10g.
Anhydrous soda sulphite.....	60g.

(3) USE OF ACETONE.

The remarkable solubility of metoquinone in acetone renders the use of this reagent particularly advantageous as a substitute for alkalis in the preparation of metoquinone developers. To prepare the developer either make a saturated solution of metoquinone in action (solubility, 35g. to 100 c.c. of acetone), and add a small quantity of this solution to the corresponding volume of sulphite solution, or add acetone to the ordinary developer compounded with soda sulphite. Acetone is added in different quantities according to the developing power it is desired to obtain. Small quantities of acetone have a very marked effect. The developing power is increased by adding acetone up to 5c.c. to 100c.c. of developer.

The following are two formulæ for normal developers, according as saturated solution of metoquinone in acetone, or acetone added to the ordinary developer, is used:

- *1. Saturated solution of metoquinone in acetone 30c.c.
 Water 1,000g.
 Anhydrous soda sulphite..... 60g.
2. Water 1,000g.
 Metoquinone 9g.
 Sulphate of soda..... 6g.
 Acetone 3c.c.

The solution will develop when the proportion of metoquinone and acetone indicated in the above formula is considerably reduced.

(4) USE OF CAUSTIC ALKALIES.

Not only can carbonated alkalis be added to this peculiar developer without fogging of the image, but even caustic alkali may be added, thus increasing its strength considerably. By adding 100 c.c. of normal developer to 0.5g. of caustic lithia development is about twice as rapid as with carbonate of soda only, and five times as rapid as with sulphite of soda. If the quantity of caustic lithia be increased to 1g. the maximum of effect is obtained. The solution thus possesses remarkable developing power, enabling good results to be obtained from much under-exposed negatives.

* The solution of metoquinone in acetone should be kept in well-corked bottles, otherwise it absorbs the oxygen of the air and becomes brown.

(4a) USE OF FORMOSULPHITE.

Formosulphite, as is known, is a compound which takes the place of both alkali and alkaline sulphite. It gives very good results with this new developer. We have found the following formula to give the best results:

Water	1,000c.c.
Metoquinone	9g.
Formosulphite	60g.

As regards developing strength, formosulphite acts with metoquinone like alkaline carbonates, whilst it acts like caustic alkali with various other developers—for instance, hydroquinone.

(5) USE OF BROMIDE OF POTASSIUM.

Metoquinone developer is very sensitive to the action of bromide of potassium. With 2 to 3c.c. of 10 per cent. bromide solution in 100c.c. of developer the retarding effect is very marked. Therefore, this property renders good results possible from over-exposed negatives.

(6) DEVELOPMENT OF PAPERS.

The remarkable sensibility of this developer to the action of small quantities of alkali without the solution becoming discolored to any appreciable extent, renders it particularly useful for development of gelatino-bromide papers. In the first place, used alone with sulphite of soda, with the normal developing formula that we have adopted for plates, blacks are obtained of an intensity nearly equal to those given by diamidophenol, as well as very pure high lights. The addition of a small quantity of alkali to the developer in no way affects the brilliancy of the high lights, and increases the intensity of the blacks, which then becomes superior to those given by diamidophenol developer. The following is the composition which we suggest for development of gelatino-bromide papers:

Water	1,000g.
Metoquinone	9g.
Anhydrous sulphite	60g.
Anhydrous carbonate of soda	10g.
10 per cent. solution of bromide	10c.c.

The sulphite and alkaline carbonate may with advantage be replaced by formosulphate. The following is the composition of normal developer with formosulphite:

Water	1,000g.
Metoquinone	9g.
Formosulphite	60g.

With this developer images are obtained comparable to those gained by use of the preceding formula containing an alkaline carbonate. Metoquinone is therefore highly interesting in connection with the development of gelatino-bromide papers.

CONCLUSIONS.

Metoquinone forms a new and remarkable developer both for plates and papers. Not only does it add to the at present limited list of developers operating without alkali that possess the great advantage of not affecting the gelatine, but it affords in addition the following advantages, which have not up to the present time been possible of realization, in developers of the same class:

- (1) The solutions, even uncorked, keep without appreciable alteration.
- (2) It is possible to develop a large number of plates in the same bath, using the latter until exhausted.

(3) The developing strength of the developer can be increased in large or small proportions by the addition of carbonate or caustic alkalies, or better by the use of formosulphite, without risk of fogging the plates. This property gives great elasticity to the developer.

(4) The developer being highly sensitive to the action of bromide of potassium, enables contrast to be produced even in over-exposed negatives.—*The British Journal of Photography*.

GUM-BICHROMATE.

BY J. PAGE CROFT.

WHENEVER I think of it, I am always tempted to wonder why the profession does not make more use of this process, by availing themselves of the immense possibilities it places in their hands, in the securing of an individuality which in a business means a proprietary trade, and an asset of no mean value. Personally, I can see no other reason for such neglect than a lack of knowledge of the simplicity of the process—it is always the unknown that frightens—an absence of thought of the advantages to be secured, and a want of enterprise in striking a new line which is unfortunately one of the predominating features of our race. Now let us look at the pros and cons of the case, and as the latter are fewer and can be very easily removed, we will attend to them first. It is said the process is slow and uncertain, and would not prove popular at the finish. As regards speed, I would undertake to finish a dozen cabinets, mounted complete, in half the time that they could be turned out in P.O.P. Even if they were thrown into water and allowed to develop themselves, they would be all through under the hour, and with no fixing and no washing, and dried rapidly before a fire, they would be ready for mounting within a few minutes after they leave the water. Neither need there be any uncertainty whatever working under the almost similar daily conditions and methodical routine of the profession. As regards the contention that the public would not have it at the finish, this same argument was used against both bromide and platinotype, which has been completely falsified on result. Turning now to the other side of the ledger, I claim in its favor cheapness, simplicity, variety, individuality, novelty, superiority, and a greater claim for the professional to the title of "photographic artist." Dealing first with cost, that primary consideration which obtrudes itself into all our concerns, beyond the outlay for paper and the price of gum—the cheapest does as well as the dearest—color, and brushes, a few shillings will provide the whole outfit. If, indeed, there is any other printing medium that costs as little I shall be glad to know of it. The gum, color, and bichromate have but to be mixed and spread on fairly evenly—without any hard-and-fast formulæ—and that is all. With just a trifling amount of experience any ordinary intelligent assistant could prepare all the paper required in a very short time; and is there anything as simple?

The only process offering similar variety as regards color is carbon, and this is more expensive, infinitely longer to work, necessitating transfer, limit of exposure, and liability to blister, while as regards detail, which

bogey is fast disappearing, on a smooth paper gum will give all the detail and half-tone requisite or desired. Take Demachy's work, for example; of course, all cannot be Demachys, but they would surprise themselves how near they could get with but a little practice in this really simple process. Individuality, so glibly talked of and yet so little practiced, is an asset to a professional worker which can hardly be overestimated, and yet is so barely appreciated. Either dainty or vigorous sketchy effects (according to subject) can be easily produced by simply partially removing, modulating, or breaking up the background with the brush, and every copy may be treated differently. And why should they all be alike? Repetition suggests a machine, and a machine-made look does not so easily lend itself to a higher charge. But the appearance of hand-work, "done by hand," as apart from "machine-made"—so understood, valued, and charged for by our bootmakers and tailors—is not worked to its full value by the profession in which it is genuinely worth the extra money. Novelty—do not the milliners, drapers, and fancy dealers know how to run this claim!—both in color and general treatment can be so simply obtained, legitimately charged for, and willingly paid, that neglect in this item alone is almost criminal to a man in such a profession, in which his chief asset should be situated in his head. As regards superiority of results, there can be no vestige of doubt; for with the far greater range, richness, and depth obtainable in gum, ordinary silver printing can in no way compare, and respecting permanency, there being nothing in the process liable to fade, the results should last as long as the paper.

And last, but certainly not least, gum offers in a simple and easy way a far greater scope to be treated artistically than any other process, and makes a greater claim to be considered a work of art at the finish. For instance, taking a life-sized head, and treating it in this way, mounting it on an untrimmed sheet of Whatman's paper, it is infinitely superior to the trade enlargements, and would make a bolder bid to be considered art, and a stronger appeal to the cultured, also to those who think they are, to those who know it is the right thing to aim at, and those novelty-seekers, all of which classes are prepared to pay, and pay well, for the indulgence of their own particular tastes. And is not this worth something to him who has been banteringly, but not discourteously, described as the bread-and-butter photographer? And would not he be justified in charging, and would not he obtain, something extra for the work? I recently took "a head in gum" to one of the largest print and picture dealers in the kingdom to be framed, and blandly asked the attendant what it was. He examined it critically, cautiously, and carefully, and then unhesitatingly pronounced it a "crayon drawing," which as a marketable commodity is of greater value than a mere photograph—however disparaging it may appear to us photographers generally. It may be urged that work treated in this way would not appeal to all; but the silver print might still be given to those at present preferring it, but the higher ideal might with pecuniary advantage be offered to what will prove an extra and increasing section of the public, and would tend to a rise in the standard of education, an increased pecuniary consideration of the worker, and a more exalted position in the world of art, for the profession.—*The Amateur Photographer.*

AN IMPROVEMENT IN CARBON PRINTING.

It has generally been conceded that ready sensitized carbon tissue, that is, tissue sensitized during the course of manufacture, gives better results than tissue sensitized by immersion in a solution of an alkaline bichromate; and Mr. H. W. Bennett has been experimenting with a view to finding, if possible, a method of making the one method as good as the other. He thinks he has succeeded and gives the results in an article in *Photography*, from which we make the following extract:

Among the various substances added to the sensitizing bath with the object of improving the quality of the tissue in working and also in the resultant prints, the following are those most worthy of attention:

Neutral Potassium Oxalate. The addition of this salt has been suggested by Professor Namias for conferring keeping qualities, but as my work has been directed solely to obtaining good results on tissue used soon after sensitizing, and as this salt is distinctly inferior in this respect to other substances that I had used, it has been discarded.

Sodium Carbonate. The results obtained by adding sodium carbonate to the sensitizing bath have been very promising, and for some special cases equal to those given by any other substance. The quantity that could be added with success required gauging very carefully, as it was found that if sufficient to ensure solubility and easy working were used, other difficulties were introduced; and, as a much smaller quantity would give improved gradation, another addition was made in combination with sodium carbonate to secure good working qualities, which will be described in a later paragraph. The effect is to lengthen slightly the gradations at the light end of the scale.

Potassium Carbonate is very similar in its effect to sodium carbonate; a smaller proportion is sufficient to produce the same degree of modification.

Neutral Potassium Citrate. This salt has been added to the sensitizing bath by Professor Namias for conferring keeping qualities; and in testing it for my purpose—securing improved gradation—it was found to have a very marked effect. Used alone, however, the general working qualities of the tissue were no better than when a plain neutral solution of bichromate was used, but these qualities were easily secured by a further addition to the solution.

Sodium Citrate may be substituted for the potassium salt, the differences are inappreciable.

Citric Acid. Although from the conditions recognized as being essential for the successful working of carbon tissue, especially when bath sensitized this salt appears to be one of the least desirable additions to the sensitizing solution; yet it has given the best results in every respect. A small proportion produces a decided difference in gradation; the results can therefore be easily controlled or modified.

It has been stated in a preceding paragraph that the inherent defect in bath sensitized carbon tissue is the loss of gradation at the light end of the scale, the general effect being that which would be produced by exposing tissue to light and so fogging it or degrading its purity; and this grey veil robs the lighter tones of all their value, gradation, and brilliancy, and it still remains even if the portions of the print protected by the safe-edge are quite clean. By no care or precautions in drying have I been able to overcome this defect, and those most experienced in working the carbon process have invariably stated that bath sensitized tissue is distinctly inferior to that sensitized in course of manufacture. It has been this defect more than any other that I have endeavored to remove, and the results obtained are not only thoroughly satisfactory, but from the data given they can be modified by each worker as he may desire.

Taking the substances named, potassium oxalate may be dismissed, and the others may be placed in the order in which they have been described, sodium carbonate producing least effect, and citric acid being unquestionably the best, and also offering the greatest power of control. It is absolutely essential, how-

ever, to neutralize, or more than neutralize, the acidity of the solution; and the method of obtaining an alkaline bath is the determining factor in securing good working qualities.

Ammonia. I have only succeeded in sensitizing tissue that would be as satisfactory in its ordinary working qualities as freshly-made sensitive tissue, by making the sensitizing solution alkaline with ammonia, whatever substance had been added for modifying the gradation. Although various degrees of alkalinity have been tested experimentally, that which has been found to be the most satisfactory and the most simple to determine has been to add ammonia to the sensitizing solution, after all the other ingredients have been dissolved, until the orange-red color of the bichromate changes to a lemon yellow; and the smallest possible quantity of ammonia that will effect this change should be used. This amount will vary with the different substances or quantity of such substances added. In my earlier experiments with the carbonates, sufficient of these was added to the solution to effect a similar change, as the value of this condition of the bath was recognized; but, in all cases, the results obtained were very inferior in many respects to those resulting from a smaller proportion of carbonate with sufficient ammonia added to complete the change.

For obtaining good working qualities—solubility, freedom from brittleness in developing, etc.—the value of ammonia cannot be over-stated; and although its full effect is most noticeable when added to a strong solution of simple bichromate—the most satisfactory sensitizing bath—yet its efficacy does not appear to be impaired by any of the substances given in this article, but as they modify the tissue, the effect of ammonia has to be examined carefully by comparative tests.

In all the following formulæ the quantity of ammonia represented by x is determined by the method given in the paragraph on ammonia:

SENSITIZING AMMONIA.

A.—Potassium bichromate	1 ounce
Citric acid	$\frac{1}{4}$ ounce
Ammonia	x
Water	50 ounces
B.—Potassium bichromate	1 ounce
Citric acid	$\frac{1}{2}$ to 1 dram
Ammonia	x
Water	50 ounces
C.—Potassium bichromate	1 ounce
Potassium citrate	$\frac{1}{2}$ ounce
Ammonia	x
Water	50 ounces
D.—Potassium bichromate	1 ounce
Sodium carbonate (crystallized)	$\frac{1}{2}$ ounce
Ammonia	x
Water	50 ounces

In all cases the solids were dissolved separately and their solutions mixed.

The solutions will keep well in stoppered bottles. As a small quantity can be used if the tissue is kept flat—four or five ounces for six pieces $8\frac{1}{2}$ inches by $6\frac{1}{2}$ inches—the used solutions should be thrown away, or a larger quantity may be taken and used several times if fresh stock solution is added each time. A solution used too many times will give uncertain results.

RESULTS AND CONCLUSIONS.

For general work solution A should be used, as it secures the finest possible gradation in the lighter work, a full scale of tones, good shadow detail, and contrast without harshness. From a negative suitable for carbon printing a rich tint can always be obtained, as the tissue should be very uniform in quality and condition at the time of using. The difference between the various formulæ is entirely in the gradation resulting in the lighter tones. Solutions B or D may be used for under-exposed negatives in which the lighter tones are relatively too strong or harsh, or for any work when the gradation at the light end of the scale is too strongly marked and requires softening down. Solution C gives a result similar

to B with the larger quantity of citric acid. Formulæ A and B are preferable to C and D.

The proportion of water may be varied according to the degree of contrast required, a stronger bath giving less contrast than *vice versa*. This strength will be found best for general work.

The method of sensitizing adopted has been to immerse the tissue face downwards in the solution for ninety seconds, then lay it face down on a sheet of glass and squeegee gently to remove as much solution as possible, and if any surface moisture should remain on the back rapidly remove it with blotting paper; then lift it by two corners and gently pull it from the glass, attach it by pins or clips to a lath, and hang it to dry.

Drying. Tissue sensitized by these formulæ is practically independent of drying conditions, provided that it dries within a moderately uniform time, from four to six hours. *Gas in the drying room has little or no effect.*

In general working the tissue has been in the highest degree satisfactory, and very pleasant to use after working ready sensitized tissue that had been kept in a box with calcium chloride. It is extremely soluble, dissolving very gently and easily at a temperature of 100 degrees; the backing paper is very easily removed after a few seconds' immersion in the developing tank, and there is not the slightest tendency to blister, nor break, nor to produce any mechanical defects even when development is very prolonged.

In almost all cases the tissue has been sensitized at night and used the following day, and no special precautions have been taken between drying and using, the tissue being simply put in an ordinary cardboard plate box. As an experiment, some was left freely exposed to the air for eight to ten hours after drying, and no difference could be detected.

As most of this work has been done during the present summer, the wet weather has been a severe test of the efficacy of the methods adopted, both in regard to drying the tissue and its after working.

Speed. Tissue sensitized by the solutions given is considerably slower than that sensitized in the plain potassium bichromate bath, but the gain in quality more than compensates for the loss of rapidity.

Although commercial tissues differ so much in speed when purchased sensitive, yet when sensitized on these baths they are all practically identical, excepting the new matt-surfaced tissues, which require only three-fifths of the exposure of the ordinary kinds. Black tissue will be approximately the same speed as Ilford P. O. P. when sensitized in bath A, so that if a narrow strip of this paper is placed along one side of the negative, it may be printed until the light tones are just as dark as required in the carbon print, and an actinometer dispensed with. Brown tissue will require rather longer exposure than this, about one-fourth, and red-chalk about one-third longer than black, or until the silver strip is dark enough for toning.

Formulæ B, C, and D yield a tissue slower than that produced by A, the proportionate exposures necessary being approximately A = 4, B and C = 5, D = 6.

Keeping Qualities. I have tested the keeping qualities of tissues sensitized on these baths, always sensitizing a piece in a plain solution of potassium bichromate, and keeping under identical conditions for comparison. The method of storing has been under the pressure of an ordinary printing frame—a method that would be effective with ordinary P. O. P. for many weeks. Ten days has been the test time, and although the results with some sensitizers have been superior to that given by the simple bichromate solution, yet in no case have the prints been so good or as clean as on freshly-sensitized tissue. The "safe-edge" has always been degraded, and the prints poor in quality. The solutions containing ammonia have been the most satisfactory, though far from good.

There are so many self-evident advantages in keeping a stock of various colors and kinds of tissue and sensitizing to suit the requirements of the moment that the method of working here given will probably be as valuable to others as it has already proved to me. One of the greatest disadvantages of the carbon process to all excepting those who work on a large scale has been the inability to secure their sensitive material in the best possible condition, especially when small quantities or several colors were required.

THE IVES PARALLAX STEREOGRAM.

WHAT has hitherto been deemed impossible of execution has been accomplished. As noted in our Society News of last month, Mr. Frederick E. Ives recently exhibited before the Camera Club of New York a number of transparencies on which the image was seen in true stereoscopic relief, without the aid of a stereoscope. The specimens shown were $6\frac{1}{2} \times 8\frac{1}{2}$ inches in size, and consisted of three glasses, one of which bore a "line composite" impression of the two images of a stereogram, another being a series of opaque lines, the third being plain ground



F. E. Ives.

PLATE ETCHED DIRECT FROM PARALLAX STEREOGRAM NEGATIVE.

glass or opal. When the transparency is examined closely the image appears double, like the illustration herewith, but when covered with the line screen, suitably adjusted, and held at arm's length in front of a window or artificial light, the images unite and the figure stands out with perfect roundness and solidity.

As will be seen by the reproduction, the positive image consists of a series of vertical lines. These are obtained by placing a ruled screen of about 100 lines to the inch slightly in front of the sensitive plate and then projecting an image in the camera from one-half of a stereoscopic negative at one angle and from the other half of the stereoscopic negative at another

angle; the difference in angle being the same as in binocular vision at about twenty inches. In the resulting photographic transparency, alternate lines belong to the different stereoscopic elements and each series is seen as one complete image by the respective right or left eye when the transparency is covered with a suitably adjusted line screen. These are bound together and backed by a sheet of fine ground glass. When viewed at the proper distance, the double image is seen to coalesce, the lines merge into each other, bringing out all the details of the picture and the figure stands out in plastic relief, startling in its life-like appearance.

We understand that Mr. Rudolph Eickemeyer and also the Falk Studio are taking up the parallax stereogram for portraiture, and no doubt other prominent photographers will follow suit. The Ives Process Company, of 550 West Twenty-fifth street, New York, intend to enter into their manufacture to a certain extent from statuary and classical subjects for to sell to the trade as optical curiosities.

CHICAGO PHOTOGRAPHIC SALON.

OUR interest in this, the fourth Chicago Salon, induces us to return to it again in the hope that some of our more reluctant readers may, even at the eleventh hour, see whether they cannot find something worth sending. December 15, at 5 p. m., is the latest hour at which pictures will be received, and we repeat the rules and regulations for the information of those who may not have seen, or of those who may have forgotten them.

No awards are offered, and no charge will be made to exhibitors. Each exhibitor will be furnished with the official catalogue of the Salon issued by the Chicago Society of Amateur Photographers, which will be official notification of acceptance or rejection of the works submitted to the Jury of Selection.

Exhibitors may submit any number of pictures, but not more than ten pictures by one exhibitor will be hung.

The pictures will be hung in the gallery on a background of dark green burlap. They will be judged by the north light of a single large window.

All pictures submitted must be separately framed (with or without glass) or matted under glass.

The title of each picture and the exhibitor's name and address must be clearly written on the labels provided, which must be attached by the exhibitor to the back of each picture. Nothing may appear on the front of the picture except the title and exhibitor's name.

No accepted pictures may be removed before the close of the exhibition.

Arrangements will be made for the sale of pictures if desired, subject to a commission of fifteen per cent.

All pictures must be forwarded at owner's risk, *carriage prepaid*, and delivered at the Art Institute not later than 5 p. m., Tuesday, December 15, 1903.

Return charges must be paid by the exhibitor.

All communications and all pictures submitted must be addressed to the Chicago Photographic Salon, The Art Institute, Chicago, Illinois, U. S. A.

SOCIETY NEWS.

Secretaries of Societies, members or others who read papers at the meetings and who desire a wider audience for their communications are requested to communicate with Dr. John Nicol, Tioga Centre, N. Y.

Camera Club of New York.

On Thursday evening, October 29th, a club social limited to members was held, when lantern pictures by F. G. Kneer, M. D., were given, followed by liquid and other refreshments.

Pictures by Mr. Stieglitz were hung on the wall.

On Tuesday evening, November 10th, the regular monthly meeting of the club was held, President Crosby presiding.

Routine business was transacted; the treasurer's report showed satisfactory receipts. The chairman of the house committee reported that a private dark room would be ready for use in about 10 days and that a Cooper-Hewitt mercury vapor electric light would probably be installed in the enlarging room for trial within a short time.

The secretary reported for the board of trustees that two active and three non-resident members had been elected to the club, and that Mr. Joseph Keily, of Brooklyn, had been elected an honorary member. Among the resignations noted to take effect next April were Dr. James H. Stebbins and Robert A. B. Dayton. The latter was highly regarded by the secretary, and it was with sincere regret that the resignation had been proposed. He alluded to Mr. Dayton's services to the society and club and suggested a special vote of regret and appreciation be passed and spread upon the minutes, which was unanimously done.

The secretary further stated that the board thought "Photography should be treated as a fine art" and contended that the rules for the St. Louis Exposition should be modified to that effect. It was announced that the Scovill & Anthony Company had presented the "Photographic Times" for the year 1903 to the club.

Following the adjournment of the business, Mr. Juan C. Abel, representing the Helios Photographic Paper Company, gave a series of demonstrations on the handling of the paper and its development to obtain various effects. It is a special platinotype paper made in four

grades, one having a parchment support, another ordinary photographic paper, a third Japan tissue and a fourth Buff Vellum. Rough Whatman paper is also prepared on orders for broad effects. Mr. Abel had several prints which he developed before those gathered about the table and obtained different tones, according to certain treatment. One peculiarity of the coating is that it will not crack if the paper is wrinkled up and cannot be damaged by washing or rubbing on the surface. The paper is prepared with different grades of coating for Black, mezzotint and Sepia colors. So that by using a standard developer at about 80° F. the particular color each particular grade of paper is coated or will be obtained without the use of other chemicals.

The regular oxalate developer is used and is specially prepared of chemically pure chemicals.

To obtain Sepia tones on the regular paper for Black or mezzotints the following formula is advised:

Oxalate of Potash C. P.	8 ozs.
Oxalic acid C. P.	1½ ozs.
Water	60 "

To be treated, then add

Bichloride of mercury C. P. powdered from ¾ to 1 oz.

The solution should have put into it a few old pieces of platinum paper and left to stand in the dark for several hours, when it will give a better result than if used fresh.

Mr. Abel then explained the delicate manipulation required in the development of the tissue paper. The back of the paper is unrolled on to the surface of the developer and development takes place as the solution permeates through the paper. Examples of the tissue paper prints were quite unique in appearance and had an engraving like effect that was particularly pleasing.

Large portraits on Whatman paper presented a soft, attractive appearance; something like an etching.

In fixing a very weak muriatic acid bath was recommended, something like one part to fifty.

On Thursday evening, Nov. 12th, a

practical demonstration was given of the advantages of the Cooper-Hewitt mercury vapor electric light for photographic purposes. Mr. Geo. G. Rockwood explained the Grun liquid lens and a portrait of President Crosby was made by this lens and the new light in about half a second's time. The light was screened with a red colored fabric to soften the ghastly violet-green effect of the rays. Prints on platinum and other paper were readily made by using this light in very short time.

The advantages of the light were so patent that a sample one is to be used by the club.

On Tuesday evening, Nov. 24th, Mr. Dwight L. Elmendorf, Ph. D., gave a most attractive lecture for the benefit of the Camera Club on "Climbing the High Alps," at Carnegie Lyceum, 57th street and 7th avenue. He introduced moving pictures illustrating the way the climbers operate.

On Saturday evening, Nov. 28th, the second club social was held at the club room. Lantern pictures were by Mr. L. W. Brownell.

Akron (Ohio) Camera Club.

At the meeting of the Akron Camera Club on Tuesday evening, October 27th, slides from the interchange were shown, there being three fine sets from Bethlehem, Los Angeles and Chicago. They contained many beautiful subjects, and ranged from landscape to portrait and figure studies. Several of the western slides illustrated Indian life and character.

The following officers were elected for the coming year: J. Dwight Palmer,



1st Prize.

Geo. Knadler.

INTERIOR.

president; Dr. J. L. Lee, vice-president; Chas. E. Smith, secretary; F. B. Hargett, corresponding secretary; E. J. Hoskin, treasurer; E. W. Terrass, John W. Schuler and E. E. Cahoon, directors.

Several new members were reported. It was unanimously decided to establish a library fund, and for this purpose the sum of forty cents per year will be



1st Prize

Pliney T. Bowen.

LANDSCAPE.



1st Prize.

Homer Blythe.

FLOWERS.

collected from each member beginning October 1st, and used for library purposes only.

AWARDS IN AMATEUR CONTEST.

As previously noticed in these columns, the Akron Camera Club recently organized a prize picture contest which might be profitably repeated by other camera clubs throughout the country. The contestants were amateurs not connected with any club and the entries were highly encouraging, both as regards quantity and quality. The club room was filled with the members and

This friendly contest in which you have engaged was planned for the purpose of bringing you into closer touch with the club and to give us an opportunity to bring to your attention the advantages of a membership therein. We want all of you to associate yourselves with us, as we are all working for a common end. This club strives to uplift the work of its members and to foster their artistic sense in such a way that none will be satisfied with commonplace work.

We are all endeavoring to make



GRAND PRIZE.
Akron Club, Amateur Contest.

Pliney T. Bowen.

their friends on the evening of November 10th, when President J. Dwight Palmer delivered the following address:

Ladies and Gentlemen:—We are gratified to see so many of you with us this evening and bid you all welcome in the name of the Camera Club, and extend to you for to-night all the privileges of the club. You are one of us to-night and we hope you will make yourselves at home and inspect our quarters and become familiar with the workings of our club before you leave.

our pictures worthy of the name and pictorial art by means of the camera is the shining mark on which we set our ambition.

We don't all succeed in the same degree, but I think I am safe in saying we all improve and some of us have succeeded most admirably. They are too modest to proclaim it themselves, but it is a fact that some of our members have achieved a national reputation and their work is solicited by many pretentious exhibitions.



1st Prize.

H. B. Seward.

PORTRAIT.

The Camera Club has been their main source of inspiration and improvement, and it offers to you the same advantages they have enjoyed. We have all the apparatus needed for photographic work. We have a fine skylight and portrait camera, an enlarging camera, a lantern slide camera, retouching stand, optical lantern, commodious work rooms, etc., and are associated with over thirty other clubs in the exchange of lantern slides. The slides you will see this evening were obtained from this source and we have them every month. They bring to us scenes from every State in the union, from Canada and the old country.

We have continued instruction and entertainment, and as the dues are a nominal sum we not only hope, but expect many of you to associate yourselves with us for our mutual pleasure and benefit.

President Palmer then awarded the prizes as follows: Grand prize for the best picture submitted, Pliney Bowen. Landscapes, first prize, August Herman; second, John Seacord; third, Albert Schied. Portraits, first prize, H. B. Seward; second, Geo. W. McCaskey;

third, Miss Lulu Eichelberger. Groups, first prize, B. O. Smith; second, A. W. Fritz; third, M. E. Marker. Animals, first prize, Harrison Grant; second, W. F. McCue; third, P. L. Arnold. Flowers and fruits, first prize, Homer Blythe; second, Pliney Bowen; third, Miss Lulu Eichelberger. Interiors, first prize, Geo. Knadler; second, Pliney Bowen; third, Miss Mary Neff. Flashlights, first prize, Geo. W. McCaskey; second, August Herman; third, B. F. Albertson. Street scenes, first prize, A. W. Fritz; second, August Herman; third, E. Worrall. Snap shots, first Mrs. M. W. Knapp; second, C. H. Smith; third, C. M. Woodring. Ladies' class, and subject, first prize, Miss Lulu Eichelberger; second, Miss Mary Neff; third, Miss Lulu Lockert. Juvenile class, first, Miss Rose Mills; second, Sear Paul. The prizes were composed of cameras and other useful articles.

A collation and an exhibition of a set



1st Prize.

Harrison Grant.

ANIMAL CLASS.]

of Interchange slides terminated a pleasant evening.

customs and scenery of Japan, and colored in the excellent way previously shown by Mr. Otis A. Poole.

THE CALIFORNIA CAMERA CLUB and the friends of the members listened to a thoroughly informative lecture on lenses and their properties by Mr. T. Yatman on October 27, just the kind of information that is most needed by professional as well as amateur photographers, and on the 30th they had a treat in an exhibition of the International slides from New Britain, Portland, Reading, Buffalo and Rochester, the latter being peculiarly interesting, as being illustrative of the manners,

TORONTO CAMERA CLUB fixtures for November included the annual meeting for the election of officers, etc., two meetings for the examination of slides sent in for the Interchange, and two at which Interchange slides will be exhibited, and one night devoted to progressive euchre. The programme for the month is accompanied by a financial statement, the satisfactory nature of which may be surmised from two of the items. The first is "Liabilities, None"; and the second, "Surplus, \$987.28."

OUR PORTFOLIO.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y.

1672. W. H. BLACAR.—"Mt. Desert Coast." We like this better than anything you have hitherto sent, although there is still room for improvement. The rocks and troughs of the waves are still too black and would have told better in a slightly higher key. Why do you neglect the power given in such cases by local intensification? Then why did not you wait just a little so as to get the sailing vessel in the place where it would have done the most good? a little to the right, about in a line with the farthest spray. There, small as it is, it would have done something to balance the larger mass on the left. Those, however, are little faults, and in a worse picture would not have been noticed; but the better the picture the more easily the little faults are seen, and this is really a fine bit of coast work; fine in selection and in spite of a still too short exposure, fine photography.

1673. HELEN L. GRISWOLD.—"At Evening." Three trees, the same number of cattle, and nothing more; but they tell the story admirably; the drawing of the day to a close. The shades of evening are closing around, with only sufficient light to tint the backs of the cattle as they stand, preparing to lie down for the night under the protecting care of the trees, giant watchmen or sentinel as the fancy may dic-

tate; but not without a careful scrutiny of their surroundings to make sure as far as visual observation may, of their safety. Or they may be, as we cannot be sure of their kind at this distance, waiting for the milking time, although alas! this country knows little of the milkmaid and the poetry surrounding her; enough to say that this artist knows how to set us a thinking; keeps her story as it were to herself, only giving us sufficient outline to dream over a probable half dozen of explanations, all equally suggested. This is one of the kinds of art we like, as it enables us to feel that we are in partnership with the artist, and to congratulate ourselves on our ability to read the riddle aright.

In "At Evening" landscape and sky have each an equal share in the production of the effect, the departing light from the lower break in the clouds making its way admirably through an unusually well suggested atmosphere, and altogether it is a picture that the more we look at it and the oftener we return to it the better we like it. See frontispiece.

1674. C. R. MORRIS.—"Foxhall's Foundry," a ruin surrounded by dense foliage, an object of more historical than of pictorial interest, being the foundry suggested by Jefferson, and in which the first American cannons were cast, Perry's victory on Lake Erie be-



ing won by cannons cast here. The photography is good and would have been better of a slightly longer exposure, sufficient to have, in development, secured the desired detail without making either sky or light side of the ruin so white. The white vertical line at the right edge of the print should be trimmed off, as it tends to catch and detain the eye, making one wonder what it is doing there. Taking it as it is, it is an admirable specimen of one of the most valuable phases of photography, "the record of fact," and one that should be more employed than it is in recording just such objects before they pass from the memory of the nation.

1675. HERMAN DOERNER—"Three Friends," three young men, one behind and above the other, their heads in a vertical line, is one of those freaks that we take photography too seriously to regard with favor. It is, however, a very good photograph, and we have only to add that one who can photograph so well should turn his work to better account.

1676. F. P. TOLLES—"Crossing the Stream" is a little print that at any of the earlier photographic exhibitions would have been awarded a prize, and but for its size, one of the most valuable. A stream rushing through a long line of boulders amidst a young growth of trees and a girl as if returning from market crossing, cautiously using the boulders as stepping stones. It is simple and satisfactory in composition, but belongs to the $1/64$ variety, in which everything from foreground to extreme distance is "as sharp as a needle." For those who admire this style of photo-



graph nothing could be better, as the exposure has been such as to give correct values, the figure is placed just where it tells the best, and the printing and toning are simply faultless. It is as near as possible to perfect photography, but without a vestige of claim to the pictorial.

1677. H. H. HARVEY.—The unnamed print is of a fine subject, but a poor photograph. Apparently the end of a lake, with a path around it backed by an inclined plane of trees that with their reflection in the water make a wedge with its point near the left margin and its broad end close to that of the right. But sky and water are the same dull grey, while the foliage is only a little darker, and without a trace of light or contrast from top to bottom. It looks as if from a very much overexposed negative developed without proper care, although the selection and the placing of the figure are both excellent. Judging from this your knowledge of art is very much better than your knowledge of photography, and we advise you to give undivided attention to the technique of the art for some time to come.

1678. BARBARA CHANNELL—"This Little Piggie Goes to Market." Anything that sends us back to the nursery is always both interesting and pleasant, and this is no exception. The old, old

story that has so many times answered its purpose is as well told as ever, the lighting only a little at fault. It has been too much in front, making the picture flat, without light and shade, only an almost universal middle-tint. The real fault, however, is in the blackness of the skirt, a blackness equally all over and so intense as to attract the eye and keep it from the interesting figures. Try again, getting the light more to one side or the other, and expose long enough to show the folds of the skirt, or better still, with a lighter skirt. The arrangement could hardly be improved. (See page 545.)

1679. A. J. WARR.—"Shipping Live Stock in Hawaii," four men in a box swung from the jib of a crane towards a schooner, probably as near the rocky coast as she can get; has no claim to



the pictorial, but is an excellent example of the record of fact. It is one of the very few snap-shots that are anything like properly exposed, indeed the exposure has, if anything, been just a little too long, or rather the development has not been sufficiently modified to suit it. A little more of the bromide would have made all the difference; but it is, except for a slight want of contrast, fairly true in values and a really fine photograph.

1680. S. B. P.—"Along the Brook" is a fairly good subject not as well photographed as it might have been. Having been "taken almost toward the sun," as you say, tends to flatness and lack of contrast; and the excuse you give, not being able to photograph it earlier or later was a reason for leaving it alone. The lack of contrast deprives it largely of pictorial value; and

the exposure that might have been sufficient in more suitable lighting has been too short when dealing only with the shadow side. The sky and several points where better lighted are, from prolonged development, merely white paper, while the darker parts are equally black and without a trace of the necessary detail. We do not know what is meant by "10 on the diaphragm shutter," nor can we form an idea of the exposure without the knowledge of the value of the stop.

1681. W. J. MCGUFFAGE.—"A Corner Transaction," the purchase of a package of cracker-jack, whatever that may be, at a street corner from one of many "barrow merchants in Chicago," is as far as it goes, a very good photograph, fairly exposed and of fairly good values, but if at a street corner, where are the houses? The barrow is there, and so are the three figures, but for anything else, and there is considerable space both to right and left, the scene might as well be said to be in Central Africa. We suppose it is one of those suburban localities where streets are marked out and sidewalks laid in the hope of being bought and built on some day; but it seems incongruous to find a scene that is usually at a crowded street corner evidently far out in the country and far removed from the bustle of the city. The photography, however, is good and would perhaps have been more effective as an upright.

1682. R. H. SOMERS.—"Lake Inemphremagog" is really a piece of cloud-land, the lake, from the point of view chosen, being of little or no importance in the composition. Cloud pictures are sometimes very beautiful, and from its massive arrangement this might have been one of them; but the blackest of black clouds, even such as are sometimes said to precede a hurricane, were never so black as they are here represented. Too deep, much too deep, printing is one cause and the ray filter may, to a certain extent be another, as they are or at least were sent out with a solution much too deep in color. For ordinary orthochromatic plates we find diluting with from 25 per cent. to 50 per cent. of water the solution as supplied by the makers of the filter to give the desired correction. Try printing much lighter, and in future, when photographing such subjects with a kodoid plate you will find it better to use it as

the makers intend, that is without a color screen.

1683. F. M. CASE.—“At Every Gust the Dead Leaves Fall” is a fine subject from probably the very best point of view, and so well photographed that we cannot help wishing that it had been just a little better. The suggestion of a bend in a river with the roadway winding round, and both lost in the distance, is admirable, especially as that distance is rendered just sufficiently hazy by the suggestion of the always beautiful atmosphere. But the effect is considerably marred by an all too white sky and water arising from prolonged development arising in its turn from a little too short exposure. Probably two seconds instead of the second and a half would have made all the difference, giving you all the shadow detail you have before either sky or water became, in the negative, quite opaque. A more serious fault is to be charged to the lens, or rather to your employing it on a plate on which it cannot give a perspective that appears correct. The diagonal of the print as trimmed down is twelve and a quarter inches, while the focal length of the lens is only eleven and a half, forcing you to go so near the subject as to crush the three planes into the distance that should be occupied by one; to exaggerate foreground objects while to an equal extent diminishing those in the distance.

The most conservative writers on the lens have admitted that it must never be shorter than the diagonal of the plate employed, twelve and three-quarters for a 10x8, and we have always maintained that it should not be less than once and a half the length of the longest way of the plate, and that twice that length would be much better. As your aperture was f-8, we presume your lens is a rectilinear, and if so, you will be much nearer your mark by using one of the single elements for such subjects. With all its faults, however, we like the picture very much and shall have pleasure in its reproduction, only adding that those that can do so well should not rest till they can do much better. See page 533.

1684. W. T. KNOX.—“Reflected Reflections,” a snapshot of a figure leaning against the window of a Pullman car, with the figure reflected in the glass of the window, is not a subject



for criticism, being little more than a freak, and as such, a waste of material. The utter want of texture in the face and hair gives the image more the appearance of a corpse than a living subject, and altogether it is not the kind of photography that leads to improvement in pictorial effect, and is therefore the kind that we do not care to encourage.

1685. J. C. JORDAN.—The unnamed print is a good subject with the figures badly arranged, or at least arranged in a meaningless manner. Do not include figures in your landscapes till you learn how and where to place them, one of the greatest difficulties in photography. The exposure has been correct, but development has been carried much too far, so far that almost everything is simply white. Reduction would improve the negative, but nothing could



improve the way the figures, especially the sitting one, are arranged. You will always do better with a larger stop, 128, which is f-45, is never required for landscape work, f-16 being, for many reasons, much better. We have hardly ever during the more than half a cen-

tury that we have photographed, used a smaller stop than f-22, No. 32.

1686. H. A. STANLEY.—“Grazing” leaves only one thing to be desired, a more suitable exposure. Subject, point of view, everything in fact, but the lack of anything like true values work together to make it a fine picture. But surely you could see as well as we that the sky is too white and that the trunks of the trees are blacker than trees in such a light ought to be. Instead of the one-fifth of a second, under the conditions, twice or thrice as long would not have been too much. With an exposure sufficient to avoid the unnatural blackness of the trees, seeing the important place they occupy, would have made this a very pretty little picture. (See page 541)

1687. JULES A. BOURQUIN.—“A Rose” is one of the few really good examples of flower photography that come to us, although in it there is room for improvement. As a rule, a grey background is suitable for a greater variety of subjects than one of any other color, but we feel that one warmer and probably a shade lighter would have better contrasted with the rose. Then, we have a feeling that the rose is too aspiring, not content, as it were, with its position and was trying to climb higher, that it is not quite at rest, a feeling that would have been avoided by giving it a different position, by bending the stem a little. But that is purely fancy, and has nothing to do with the photography of the



rose, which is really more than fairly good, although a shade longer exposure might have made the leaves more true in their values. Flower photography, as we have often said, is the lowest form of art and at the same time one of the most difficult, and you have done so well that we hope you will yet do better.

OUR TABLE.

Books for reviews and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y.

The British Journal Almanac, big and bulky as ever, will be ready for distribution about January 1st. The supply never exceeds the demand, and those who desire to secure a copy should place their orders early. The wholesale agent in this country is G. Gennert, as usual.

* * *

It may interest our readers to know that the original negative of the large group which adorns the advertisement of the Voightlaender & Sons Optical Company in this number was made in

Philadelphia on a $6\frac{1}{2} \times 8\frac{1}{2}$ plate on a dull day; the lens used was a Collinear series II. of $9\frac{3}{8}$ inch focus. In depth of focus, even illumination and speed, it speaks well for the qualities of the Collinear for this class of work.

* * *

THE INFALLIBLE EXPOSURE METER COMPANY ask us to inform our readers that they have for some time been greatly annoyed by persistent theft of their mail to the inconvenience of their customers. The services of the postal au-

thorities has been enlisted to discover the miscreant and put a stop to the nuisance.

* * *

FROM H. A. Bentley & Company of Glens Falls, N. Y., comes several samples of work done in oil colors over photographs and prints from magazines by the aid of their liquid ivory coating medium. Also a sample of their erasing fluid which effectively removes undesirable parts of a background from collodion prints previous to the application of the colors. The liquid ivory enables oil colors being laid, in all their richness, on the most absorbent surface, and both articles will prove handy to those who wish to embellish their prints.

* * *

THE FOLMER & SCHWING MANUFACTURING COMPANY send us specifications of several new and useful articles, first of which is the Tilting Laboratory Stand. This consists of a solid base and upright support carrying a rigid track pivoted on heavy bolts by which it may be tilted at any angle from upright to up-



right, covering an entire half circle of 180 degrees and instantly clamped in any desired position by large milled head screws at either side.

Two movable platforms, both running freely in a grooved slide and clamping firmly in position at any desired point, are placed at either end of the track. One of these is for holding the camera, and the other has an upright frame fitted which may be used for holding either a copying board, ground glass or nest of kits for negatives of various sizes.

The advantages of a double movement as obtained by platforms operated as above will be at once apparent to the copyist, microscopist and lantern slide maker.

* * *

The Graphic Cut Film Holder is also a new and desirable product of this firm by which Graphic cameras of any model are converted into film cameras. The



best we can say of it is that it is as well made and accurate in its adjustments as we look for in every article which emanates from this source.

* * *

THE PHOTO-MINIATURE No. 52 is devoted to "Aerial Photography," which does not mean only photography from a balloon or a kite, but includes exposing from hill and house-top or indeed any unusually high point of view. The 29 pages tell more of what has been done in the line than how to do it, although there is some good advice concerning development equally applicable from any standpoint. We have so often had good and very much of it to say of this little magazine that we may be excused if we say that this number is probably the least interesting of all that have gone before. The illustrations, however, are really good, that is as far as they go, but after all, we feel inclined to ask is the dance worth the candle? The author makes one little slip which, if not corrected, may, as usual, find its

way into every succeeding work on balloon photography. It occurs on page 148, where, in speaking of exposure, he says: "The first necessity in aerial photography is a readjustment of previous notions and practice. We must realize that *we are dealing with direct and not reflected light.*" The italics are ours, and we thus emphasize the statement that the reader may try to discover the meaning of the writer, as he certainly cannot mean what he says. We can photograph direct light only by photographing its source, in this case the sun and everything below is seen and photographed only by the reflected rays from it.

* * *

PHOTOGRAMS OF THE YEAR 1903. New York: Tennant & Ward; paper, \$1; cloth, \$1.50, free per mail. This, the most welcome of all our annual visitors, is now in its ninth year, and we have learned to look on it as our only means of keeping in touch with the progress of photography, not only as shown by the "Two great exhibitions," but practically all over the world. In saying that it is laid on the lines of its predecessors we pay a high compliment to its editors, the editors of *The Photogram*, they having, almost from the very beginning, laid it on lines that left no room for improvement.

France is given the premier place, and as usual, Robert Demachy treats of photography there. Under the head of "What went ye out to see," Frederick H. Evans tells interestingly what were his objects in photographing each of four cathedral interiors reproduced, and how far he succeeded; and H. Snowden Ward continues his "Suggestions to would-be picture-makers" so well begun last year and equally well carried out this. Osborne I. Yellott writes of American photography, but is more hopeful for its future than pleased with its present; while Germany and Australia are dealt with respectively by Fritz Loescher and A. J. Hill Griffith. These are followed by an interesting and instructive "Fragmentary retrospect of the work of the year," but as in former years, the most generally interesting and most instructive are the criticisms of "The Two Great Exhibitions," the Royal and the Salon, by A. C. R. Carter.

The would-be picture-maker by photography who does not become the possessor of "Photograms of the Year" neglects one of the very best means of pictorial education; and of the nine volumes that occupy an honored place in our library we can honestly say this, that we would not part with them for ten times their cost of we could not replace them for less.

LETTERS TO THE EDITORS.

Exclusion of Light by Window Glass.

Editors AMERICAN AMATEUR PHOTOGRAPHER.

Gentlemen:—I wish to thank you for printing my Indianapolis speech in full in your last magazine. Am very sorry, however, to see that you thought it necessary to offer an apology to your readers for doing so.

As editors of a prominent magazine, and respected gentlemen, would it not have been more professional and to the point to have challenged the truth of the article or certain statements in it, and to have offered an argument to prove that the statements were false, thus opening the proper road to friendly discussion and development of truth that we all are badly in need of in our work? This would have saved me the personal

humiliation of having been held up as ABSURD before your readers; a thing which I deeply regret; the more, probably, because I am a new writer, and not yet accustomed to the business.

If I were an editor I think that I would confine all such matter to the discussion of the STATEMENTS, and not make remarks that reflected in a personal manner on those who may have made the statements. It seems to me that it is the development of truth that we need and not that individuals be made to appear ridiculous before the public.

If I have learned anything in the last ten years of investigation with regard to these matters it has been by reason of my great willingness to change:

society that devised it as being meaningless except to the initiated, and those whose memories were good enough to remember their significance after they had learned it. We have no doubt but that the makers would substitute a plate with the focal fractions for that with the U. S. numbers for a small charge.

Factorial Development.

(MRS.) R. W. FISHER.—The developing factor is not necessarily a fixed quantity, but may be shorter or longer according to the effect desired. The shorter the less, the longer the greater the contrast. The factors as given by Watkins are such as produce what may be called normal negatives, and the pictorial photographer will modify them to suit his purpose. We have no per formula and none that we care to recommend as being better than others. Formulae is of less importance than the know how to employ it, and until you know the nature and properties of the material employed so as to make your own formulae, you had better stick to that given by the makers of the plates you use.

Hypo Elimination.

HARRY WILMOT.—The best hypo eliminator is plenty of water or rather plenty of changes thereof. Lead acetate, chlorinated lime, and many other chemicals have been recommended, and some of them are sold as secret preparations, but all have the same fault, unless with as much washing as would serve to remove the hypo itself, they leave something else in the print that may be as injurious as the hypo, and so are not to be recommended. Wash in eight or ten changes of water and you may take it for granted that your prints will not fade from retained hypo. Never forget, however, that most of the fading or staining that we see is caused by insufficient fixing rather than insufficient washing.

Window Lighting.

LUX.—See letter from the author of "The Open Window" on another page and our append thereto. The style of your letter makes its insertion out of the question, as however mistaken the author may be, he thinks he has discovered something of value and is anxious to share his discovery with his fellow photographers, and is therefore entitled to be treated with respect.

Your figures, both as regards absorption and reflection are probably nearly correct, and if you will give them without the cynicism and over your own signature we shall be glad to insert them.

Thorough Fixation.

H. L. S.—Double coated plates and films, and emulsion containing much silver iodide are more difficult to fix, that is, they take a *longer* time to fix than ordinary plates or films, and you make a mistake in using the stronger solution of hypo for the purpose. It has long been known that a 25 per cent. solution will fix a plate in a much shorter time than would a saturated solution. Stick to the 25 per cent. solution and give plenty of time, making sure that you allow the plate to remain in the solution at least half as long after it appears quite clear as it took to make it so. The yellow stain on the part of the negative sent is caused by the neglect of that absolutely essential precaution, and nothing with which we are acquainted will remove the stain without destroying the image.

Direct Prints on Gaslight Paper.

W. PICKERING.—Thanks for the print, "printed out" on glossy velox, although we are surprised that you and your professional friend should have thought there was anything unusual, surely nothing to "dumfound" him in the fact that it was printed by an exposure of half an hour to sunlight. We had thought that it was generally known that on all, or almost all, developing papers, ordinary dry plates, and even platinum paper, images more or less perfect could be produced by exposure to light in the ordinary printing out way. We cannot tell you "all about the paper," as the makers of each keep their working formulae to themselves, but the probability is that in addition to bromide of silver they contain also some chloride, and the image on the sample sent is due to the latter only, the exposure not having been sufficient to affect the former. Had you exposed long enough to get a sufficiently dense image it would probably not have been removed by the hypo. The fact that the paper is "stale" has nothing to do with the printing out, nor does velox deteriorate by reasonable keeping; some that we have had for over four years giving as good prints as ever.

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A Monthly Review of Amateur Photography.

VOL. XV,

NEW YORK, DECEMBER, 1903.

No. 12.

Edited by

Dr. JOHN NICOL and F. C. BEACH.

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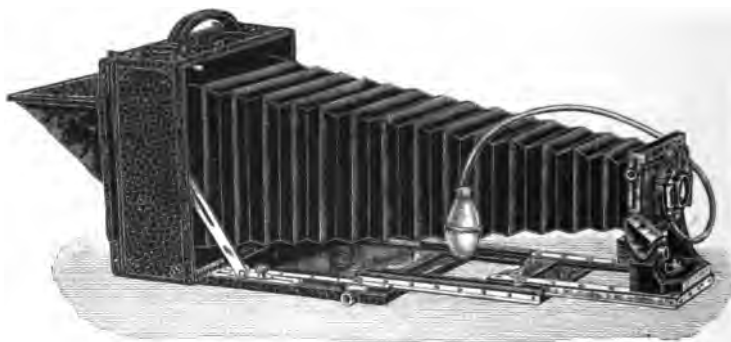
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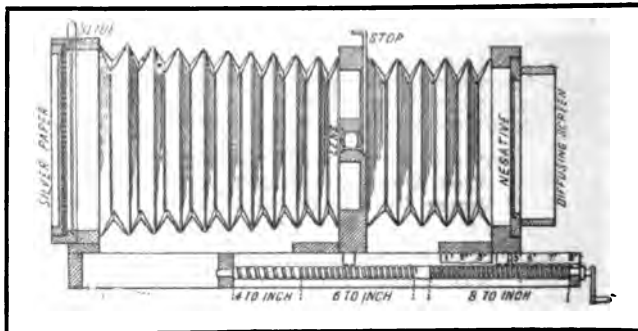
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THE ILLINOIS COLLEGE OF PHOTOGRAPHY sends the usual monthly notice of its doings from which we see that progress may still be said to be its keynote. Intending to add photo-engraving to the curriculum, Professor Bissell invited the president of the Photo-engravers International Union to look over the ground and probably consult as to how best to carry on the work without in any sense antagonizing that body, unions being sometimes chary of what they consider too widely opened doors for admission to the craft. We understand the result to be that before this reaches the eyes of our readers the Illinois College of Photography will have an engraving plant in every way suited to its requirements. The production of half-tone blocks is not a difficult matter, and the photographer who can add that to his other work may fill up many a leisure hour with both pleasure and profit.

* * *

THE DELINEATOR December (Christmas number) contains an interesting article on photography by J. C. Hement, the noted press correspondent. There is also the usual display of fashions covering forty-two pages, letters from the foreign fashion centers and illustrated articles on the fashionable fabrics and trimmings, millinery, etc. Among the notable contributors are: Richard Le Gallienne, with a delicate romance, "A Wedding Ring in the Garden," containing lyrics in the author's best vein; W. A. Frazer, with an Indian tale, the "Net of Leo;" Albert Bigelow Paine, with a delightful sketch founded on the foibles of the collector; Harriett Prescott Spofford, with a love story of unusual interest; Andrew Lang, with a clever travesty on the usual fairy tale; and Gustav Kobbe, with an interesting paper describing the life of Mme. Emma Eames, in her Italian home, with her portrait in colors. There is also the third installment of the "Evolution of a Club Woman," the piquant narrative of

clubdom by Agnes Surbridge. There are many beautiful art pictures, among them four pages in colors representing Babyhood, Childhood, Girlhood and Motherhood—the work of Bernard J. Rosenmeyer. For the children there are entertaining games and stories, and for the housewife many practical suggestions in cookery and other departments of the home, for the Christmas season.

* * *

Concerning the F. F. Proctor Attractions.

When the ever gay holidays come near to us, there's an inevitable tendency on the part of the average good citizen and family man to go to the playhouse. Wise is the manager, therefore, who so shapes his programmes as to entice the majority of the holiday amusement seekers, and especially wise in his generation is F. F. Proctor, who seems to have a peculiar knack of putting together bills that smack of novelty, crispness and good cheer generally. All the Proctor playhouses—seven in number, by the way—are being fortified for the cold weather campaign in numerous ways best suited to the patrons. Redecorations of the interior, additions of many new electric lights, installing of a profusion of palms and shrubs, together with handsome new scenery; all these are only a few of the opportune improvements now being made. Long ere snow flies the Proctor theaters will be the cosiest and most luxurious of their class in the East.

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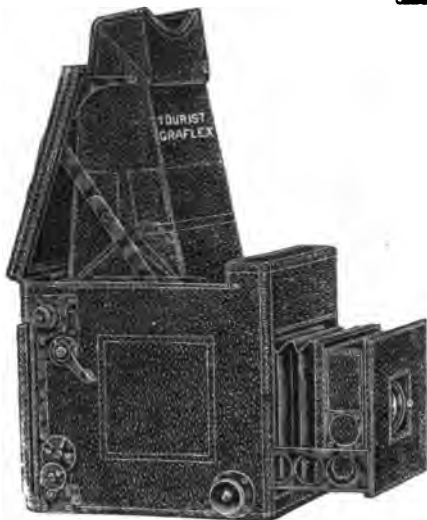
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